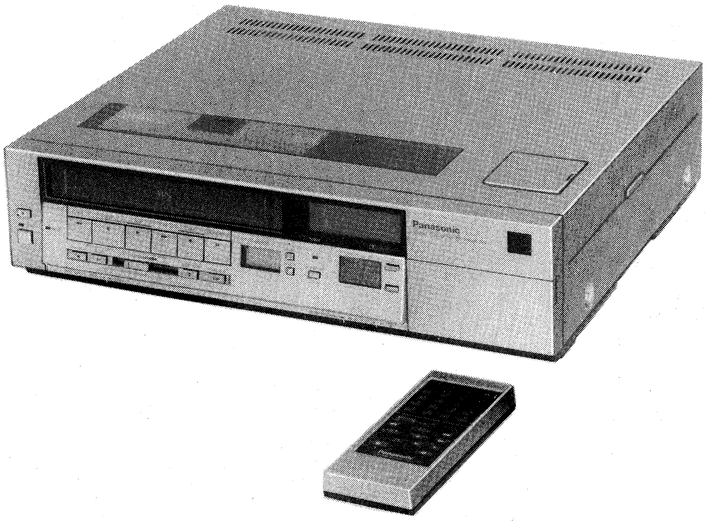
ORDER NO. VRD-8207-110

Service Manual

Video Cassette Recorder

Panasonic VHS

NV-777



Vol. 1	Vol. 2	Vol. 3	Vol. 4
Summary *Operating Instructions*	*Mechanical Adjustment Procedures* *Electrical Adjustment Procedures*	*Block Diagrams* *Schematic Diagrams*	*Exploded Views* *Replacement Parts List*

VHS

Panasonic

Matsushita Electric Trading Co., Ltd.

ORDER NO. VRD-8207-110

Service Manual

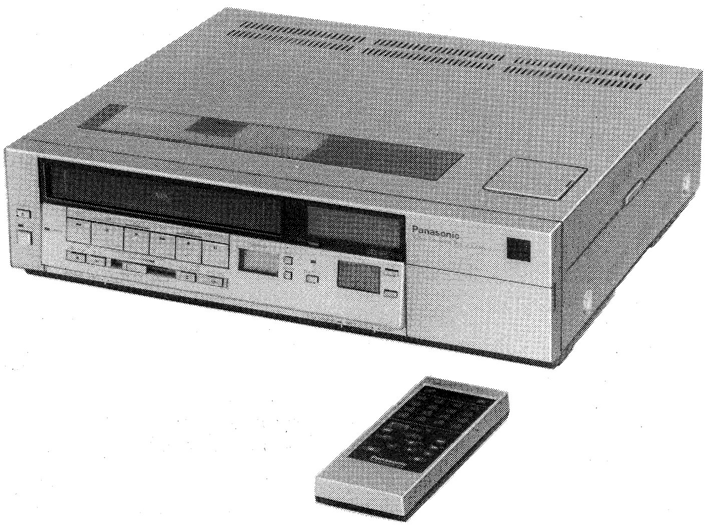
Video Cassette Recorder

Panasonic VHS

NV-777-E -EG -B

Vol. 1

Summary Operating Instructions



SPECIFICATIONS

Power Source: 220V AC 50/60Hz (NV-777-E, EG)
240V AC 50/60Hz (NV-777B)

Power Consumption: Approx. 38 watts

Television System: CCIR: 625 lines, 50 fields
PAL colour signal (NV-777-E/-B)
CCIR: 625 lines, 50 fields
PAL/SECAM (DDR) colour signal (NV-777-EG)

Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Colour signal: converted subscarrier phase shift recording

Audio Track: 1 track

Tape Format: Tape width 12.7mm high density tape

Tape Speed: 23.39mm/s

Record/Playback Time: 240 min. with NV-E240

FF/REW Time: Less than 4.5 min. with NV-E180

Heads: Video: 3 rotary heads
1 pair for normal recording and playback (R-L Head)
1 pair for trick play (L-L′ Head) (field still and slow)
Audio/Control: 1 stationary head
Erase: 1 full track erase

Input Level: Video: VIDEO IN connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE IN jack
More than −20dB, 50kΩ

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE OUT jack
−6dB, less than 1kΩ
RF Modulated: UHF channel 36 ± 4CH
73dBμ ± 4dBμ 75Ω terminated

Weight: 10.4kg

Dimensions: 430(W) × 115(H) × 372(D)mm

Accessory Supplied: 1 pc. DIN-RF Cable VJA0130
1 pc. Video Cassette Tape (NV-777-E/-B)
1 pc. Wireless Remote Controller, NV-A17-E

Optional Accessories: Video cassette tape:
NV-E240 Approx. 344m, 240 min.
NV-E180 Approx. 258m, 180 min.
NV-E120 Approx. 174m, 120 min.
NV-E60 Approx. 88m, 60 min.
Video Camera, WV-2600E, WV-3000E, WV-3200E

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

INTRODUCTION

This service manual contains technical information which will allows service technicians to understand and service the Panasonic PAL VHS Video Tape Recorder Model NV-777E/EG/B.
The NV-777E/EG/B has many special features as shown in page 1-2.
These features in addition to the basic PAL VHS Format make the unit an ideal one for your culture and entertainment.

CONTENTS

SPECIFICATIONS .... **Cover**

INTRODUCTION **1-1**

FEATURES **1-2**

CONTROLS AND COMPONENTS **1-3**

VTR TUNER SETTING **1-6**

INFRA-RED REMOTE CONTROL **1-7**

INSERT EDITING (Insert Recording) **1-8**

*Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

FEATURES

4 hours recording and playback

The unit can record and play back up to 4 hours on the professional 4-hour VHS format in an excellent picture quality with the new longer playing NV-E240 tape.

Super still, Super slow

For clearer, less blurred still picture and slow motion.

Multi-motion playback

In addition to regular playback, Super still and Super slow, you can operate multi-motion playback as follows: CUE (forward at 9 times normal speed), REVIEW (at 9 times normal speed in reverse), STILL ADVANCE (to advance a still picture), VARIABLE SLOW (at 1/5–1/30 normal speed), REVERSE PLAY (at normal speed in reverse).

Front loading system

This new design enables you to insert a video cassette in front without taking place. The Cassette-In Indicator " 📼 " appears when the video cassette is in the VTR.

Infra-red remote control

The remote control allows the following VTR functions.
●POWER ●RECORD ●PLAY ●CUE ●REVIEW ●PAUSE/STILL ●STILL ADVANCE ●VARIABLE SLOW ●FAST FORWARD ●REWIND ●CHANNEL CHANGE ●STOP

One-Touch Timer Record Button

One-Touch Timer Record (OTR) Button enables you to do impromptu timer recordings at any time. Just select channel to be recorded and push the OTR Button for 30, 60, 90, 120 minutes of recording.

Insert Editing

The Insert Editing allows you to insert new pictures onto an pre-recorded tape. To complete tape editing you can add the sound with the audio dubbing function.

14-day 4 programmable timer

The built-in timer allows you to record TV programmes up to two weeks ahead. 4 different programmes can be recorded (include "Everyday" Recording).

Recording one programme while watching another

The built-in tuner allows you to record a programme that you don't want to miss while watching another programme.

Remaining Tape Time Readout

During recording and regular playback, the remaining tape time is indicated on the Electronic Counter.

Fine Editing Function

When the Pause/Still Button is pressed during recording, the tape will automatically rewind slightly to reduce noise.

Dolby Noise-Reduction System*

This VTR can be operated with Dolby NR. Dolby NR is a noise reduction system.

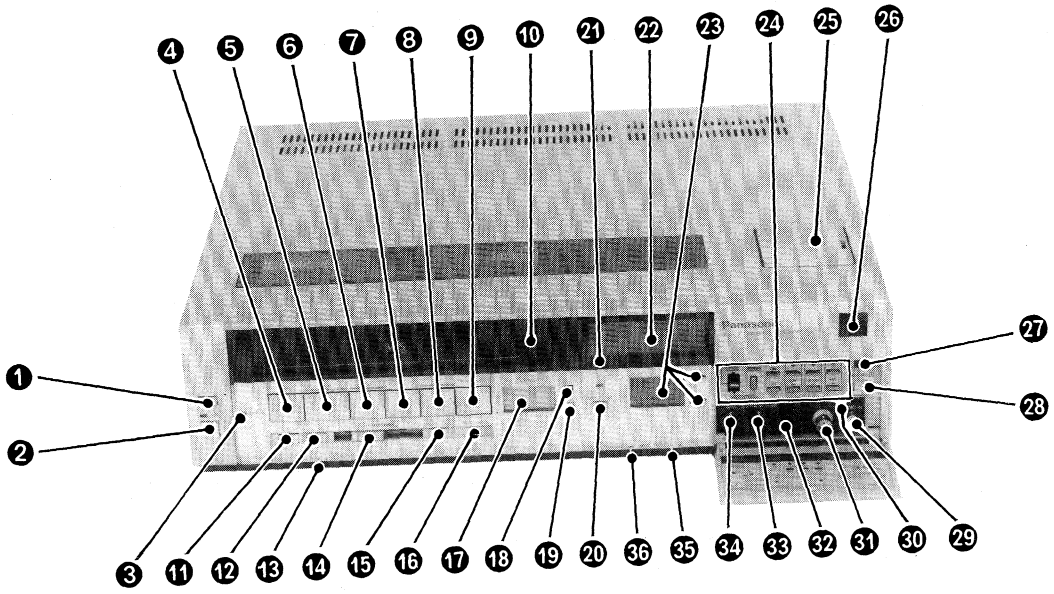
*'Dolby' and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Auto rewind (except timer recording)

When the tape reaches its end, the tape will automatically rewind to this beginning or to the "0000" counter position if the Memory Switch is ON.

CONTROLS AND COMPONENTS

TOP and FRONT



① **Eject Button**
For removing the cassette.

② **VTR Switch**
With indicator lamp for turning the VTR on and off.

③ **Camera Input Indicator Lamp**
Lights up when the Input Signal Selector is set to "CAMERA".

④ **Rewind/Review ◀◀ Button**
Press this button to rewind tapes. During the play mode pressing this button will allow you to view the picture in reverse at about 9 times the recorded tape speed.

⑤ **Stop Button**
For stopping the tape.

⑥ **Play Button**
With indicator lamp for playback.

⑦ **Fast Forward/Cue ▶▶ Button**
Press this button to move the tape forward rapidly. During the play mode pressing this button will allow you to view the picture in the forward direction at about 9 times the recorded tape speed.

⑧ **Record Button**
With indicator lamp for recording. Press this button together with PLAY button.

⑨ **Pause/Still Button**
With indicator lamp for a temporary halt of recording and for obtaining still-picture playback.

⑩ **Cassette Holder**
For insertion of a video cassette.

⑪ **Reverse Play Button**
For playback at normal speed in reverse.

⑫ **Slow Button**

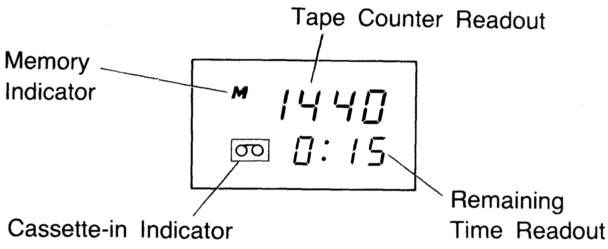
⑬ **Tape Select Switch**
Set this switch to the "~E180" position. When using NV-E240 video cassette, set this switch to "E240" so that the Remaining Tape Time Readout can function properly.

⑭ **Slow-motion Slide Controller**
For controlling slow-motion from 1/30 to 1/5 speed with the Slow Button depressed.

⑮ **Audio Dub Button**
With indicator lamp for Audio Dubbing.

⑯ **Still Advance Button**
For advancing a still-picture frame by frame with the Pause/Still Button depressed.

⑰ **Electronic Counter**



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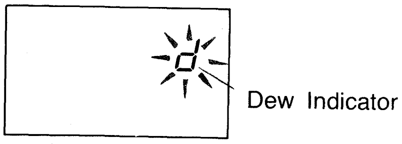


⑱ **Reset Button**
For setting the counter to "0000".

⑲ **Memory Switch**
For automatic tape stop when the counter reaches "0000" in the rewind mode. "M" is indicated on the Electronic Counter when the Memory Switch is ON.

⑳ **Dolby NR Switch**
With indicator lamp for turning on and off the noise reduction system Dolby NR during recording and playback.

㉑ **One-Touch Timer Rec (OTR) Button**

㉒ **Time Display**
Indicated either the time and day or recording start/stop times for the timer recording.

㉓ **Channel Indicator/Up and Down Buttons**

㉔ **Timer Controls**

㉕ **Tuner set-up Controls**
See page 1-6.

㉖ **Infra-red Remote Control Sensor**
Receives the signal from the infra-red Remote Control.

㉗ **Dim/Bright Switch**
Changes the brightness of the time display.

㉘ **Timer Rec Switch**
For turning the VTR on or off for timer recording.

㉙ **Audio Input Jack**
For connecting an audio cable of a video camera, a component audio system or another VTR.

㉚ **Camera Remote Control Jack**
For connecting a remote control cable of a video cable of a video camera (optional).

㉛ **Video Input Jack**
For connecting a video cable of a video camera or an output video signal of another VTR.

㉜ **Microphone Input Jack**
For connecting a microphone.

㉝ **Picture Sharpness Control**
For making picture's outline sharper or softer. It has not effect when recording.

㉞ **Tracking Control**
Use this control during playback if the image is partially obscured by bands of noise.

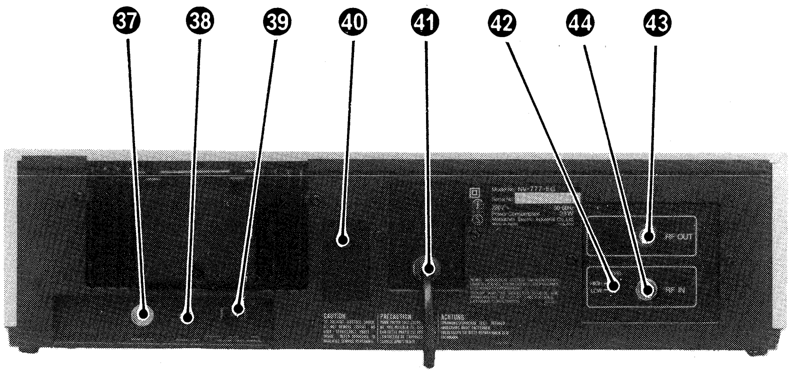
㉟ **Input Signal Selector**
For selecting the input signal to be recorded.

CAMERA: To make a recording with using a video camera which is connected to the Video Input Jack and the Audio Input Jack.

TUNER: To record a TV programme with the built-in tuner of the VTR.

㊱ **Slow Tracking Control**
For use with Slow and Still playback modes.

REAR



㊲ **Video Output Jack**
For connecting a video cable to a TV monitor etc.

㊳ **Audio Output Jack**
For connecting an audio cable of a TV monitor, a component audio system, or another VTR.

㊴ **Colour Mode/Test Signal Switch**
This switch has the following two functions:
(1) to tune the TV to the RF output channel and (2) to stabilize the colour image during recording or playback. Normally, the switch should be set to the "AUTO" position.

To tune the television to the RF output channel:
Set this switch to "TEST" to turn the TV channel to VTR RF Output.

To stabilize the colour image:
Set this switch to "COLOUR" to make a stable colour recording where the supplied corrent is extremely low. For playback, this switch must be in "COLOUR".

㊵ **RF Converter Channel Selector**
The built-in RF converter allows you to play back VTR on a standard TV receiver.

㊶ **AC Power Cord**

㊷ **RF Signal Level Switch**
Used to attenuate the reception of the VHF and/or UHF antenna signals.
If the reception is normal, set to "HIGH". If the signal is strong (the stripped pattern appears at the top of the picture on TV), set to "LOW".

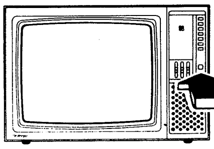
㊸ **RF Output Terminal**
For connection to the antenna terminal (COAXIAL type) of TV with the DIN-DIN Coaxial Cable supplied with the unit.

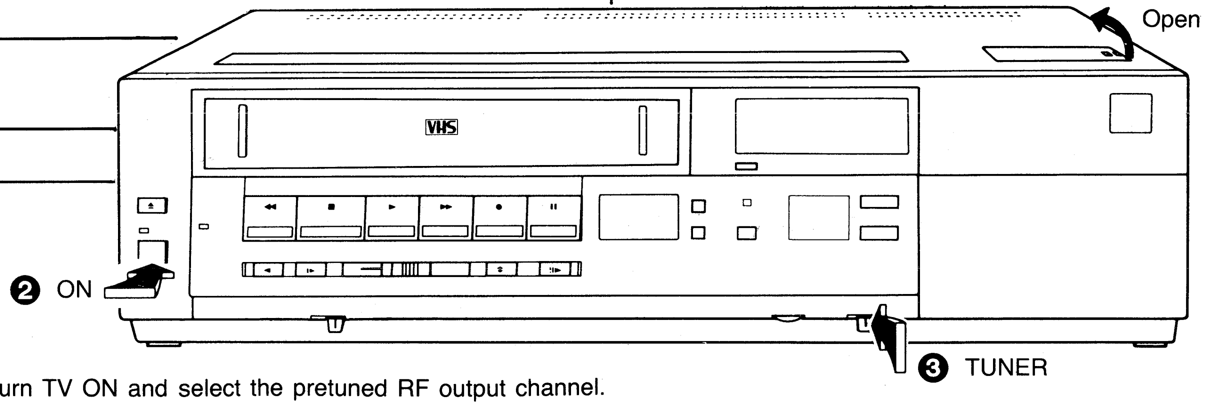
㊹ **RF Input Terminal**
For connection with the external aerial.

VTR TUNER SETTING

	VHF *		UHF
	I	III	U
NV-777-B	——	——	21–69
NV-777-E, EG	Band I 2–4	Band III 5–12	Band IV/V 21–69

The VTR tuner makes it possible to receive TV stations and to record their programmes.
Each of the buttons can be tuned any channel within the range of channels as shown in the table.


① ON, Select RF Output

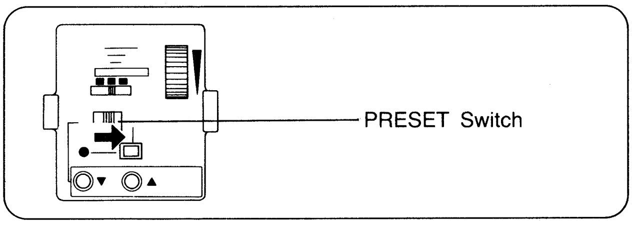


① Turn TV ON and select the pretuned RF output channel.

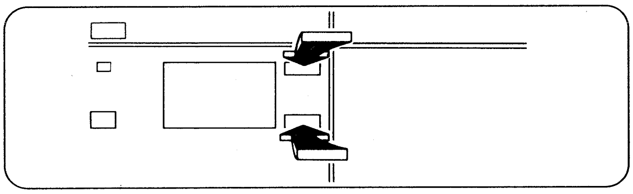
② Turn the VTR ON.

③ Select Input Signal Selector to "TUNER".

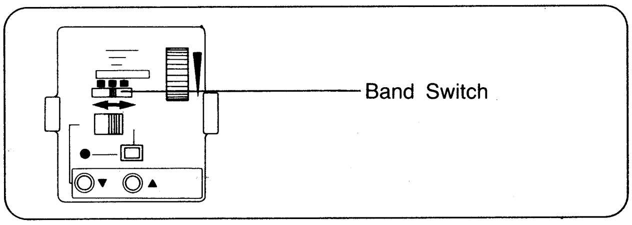
④ Set the PRESET Switch to the "PRESET" position.



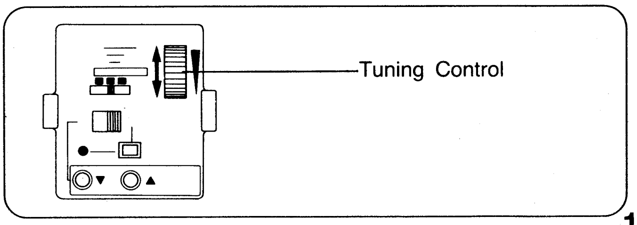
⑤ Press Channel Up or Down Button to select your desired channel.



⑥ Set Band Switch to be matched "I", "III" or "U" position.
•For model NV-777-B, this step is not necessary. (There is no switch.)

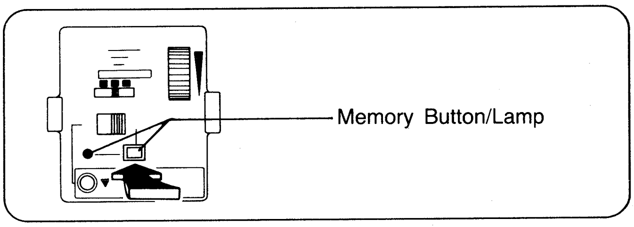


⑦ Turn the tuning control until the picture on your TV is satisfactory.



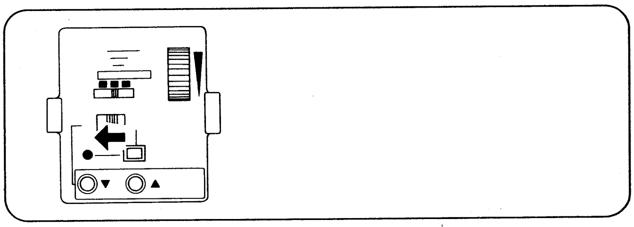
A white indicator in the window shows the approximate position of the tuning range. It moves right for high and left for low channel range.

⑧ Press the Memory Button after the adjustment for the channel is completed (the corresponding lamp lights up). AFC Indicator appears on the Channel Indicator.



⑨ Repeat steps ⑤~⑧ for each channel you desire to tune.

⑩ Set the PRESET Switch to the "NORMAL" position.

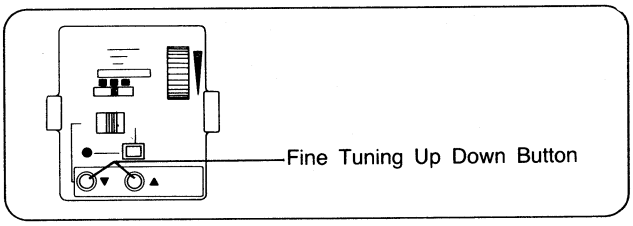


If you need Fine Tuning

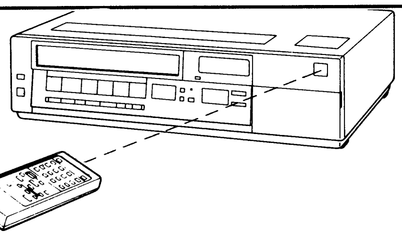
① Set PRESET Switch to "NORMAL".

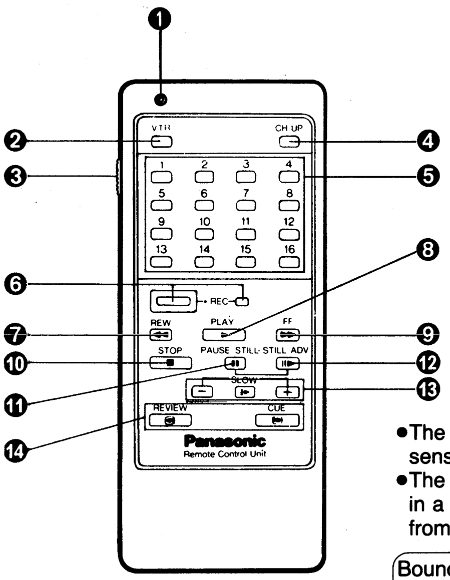
② Press Tuning Up or Down Button.

To return the channel to its former state, press the MEMORY Button.



INFRA-RED REMOTE CONTROL

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VTR
CH UP
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10
11
12
13
14
15
16
REC
REW
PLAY
FF
STOP
PAUSE STILL
STILL ADV
SLOW
REVIEW
CUE
Panasonic
Remote Control Unit

- The remote control light-sensing angle is about 60°.
- The unit should be used within a range of about 7 meters from the front of the VTR.

Bouncing wave may reach to the sensor, but transient wave directly to sensor for best results.

❶ **OUTPUT INDICATOR:**
For indicating remote control operations.

❷ **VTR:**
For turning the VTR on and off.

❸ **REMOTE CONTROL SWITCH:**
Set this switch to ON when using the unit.

❹ **CH UP Button:**
For advancing to the next channel.

❺ **CHANNEL SELECTION BUTTONS:**

❻ **RECORD (Two Buttons Entry):**
To start recording, press the two buttons simultaneously.

❼ **REWIND**

❽ **PLAY**

❾ **FF**

❿ **STOP**

⓫ **PAUSE/STILL**

⓬ **STILL ADV**

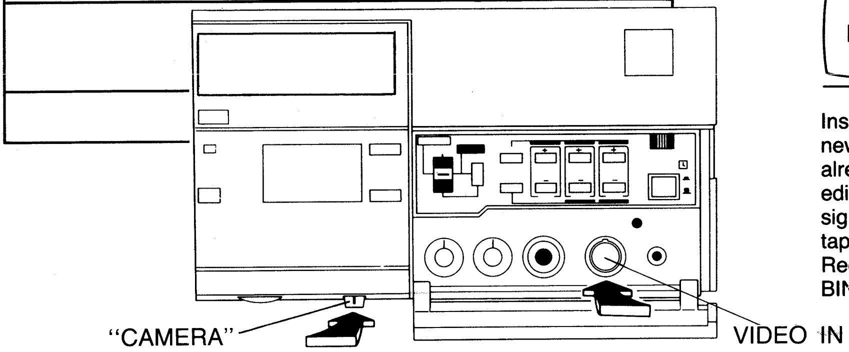
⓭ **SLOW, "+", "−":**
Press the SLOW Button for field-slow at 1/15 of normal speed. Speed can be varied from 1/5 to 1/30 of normal speed by "+", "−" Buttons.
Note:
- If you leave Super-Slow mode more than 10 minutes, VTR will stop automatically to protect the tape and the video heads.
- Adjust the Slow Tracking Control if necessary.

⓮ **REVIEW, CUE**

Note:
Infra-red beam will bounce off the walls and eventually reach to the remote sensor, but for best results transmit beam directly to the remote sensor.
Sunlight may interfere the beam.

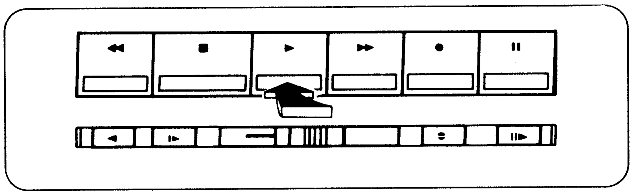
INSERT EDITING (Insert Recording)

Insert Editing, as its name suggests, consists of inserting titles and new scenes into a video tape which has already been recorded.

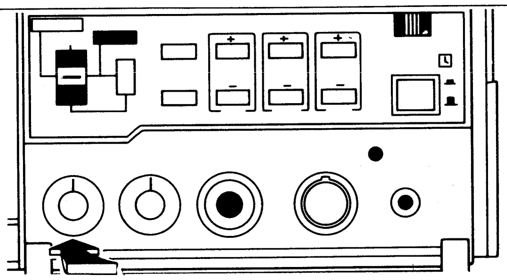


For the connection between this video recorder and a second VTR or a video camera for Insert Editing, according to the CAMERA RECORDING or DUBBING method.

❶ Press the Play Button.

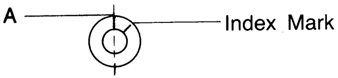


❷ Check the playback picture and use the Tracking Control, if necessary, to obtain perfect picture quality.

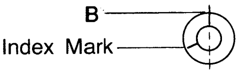


Adjust the Tracking Control as shown below, when inserting a new recording on a tape that was recorded on another video recorder.

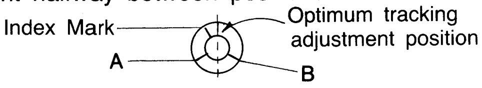
1. Rotate the Tracking Control slowly clockwise until a noise bar appears on the screen, and make a note that this is position A.

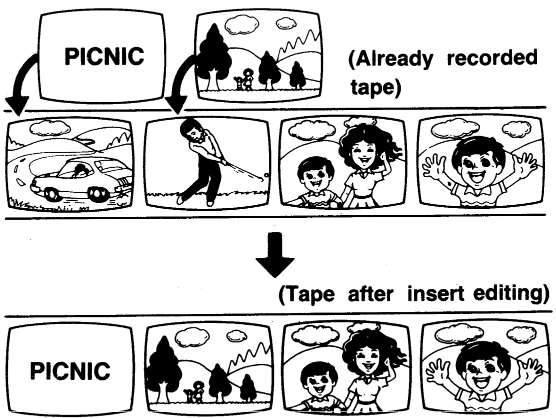


2. Then rotate the Control slowly counterclockwise until another noise bar appears, and make a note that this is position B.



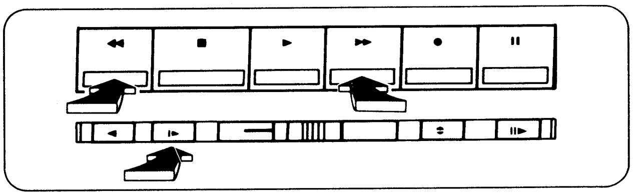
3. Set the index mark of the Tracking Control to a point halfway between positions A and B.



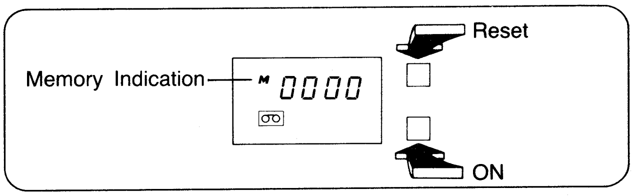


Insert Editing is a handy function for editing tapes by inserting new scenes from a camera or another video recorder into an already recorded video tape. You can put together your own edited programmes. In Insert Editing, only the new video signals are recorded, but the original sound remains on the tape. If you want to replace the original sound after the Insert Recording, follow the instructions given in "AUDIO DUBBING.

❸ Find the exact point where the Insert Recording is to finish, by using the Review, Cue or Slow Buttons.

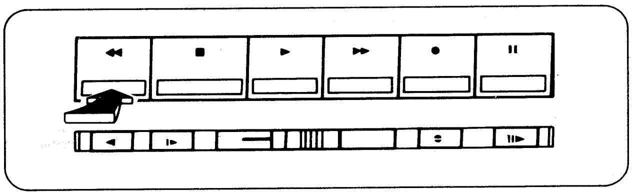


❹ Press the Reset Button at the point where the Insert Recording is to finish, to set the Tape Counter to "0000", and set the Memory Switch to ON.

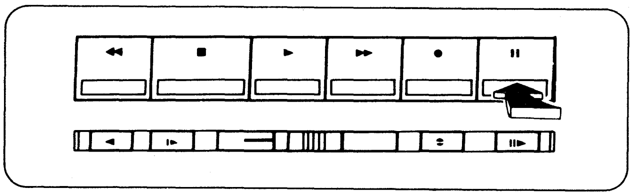


- Do not set the Memory Switch to OFF during Insert Recording.
- Ensure that the Tracking Control is adjusted properly before starting Insert Recording.

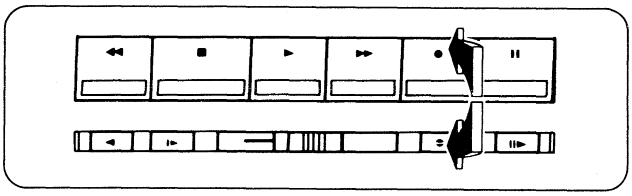
❺ Press the Review, Cue, Play or Slow Buttons to find the point where the Insert Recording is to start.



❻ Press the Pause/Still Button at the point where the Insert Recording is to start.



❼ Press the Audio Dub Button together with the Record Button.

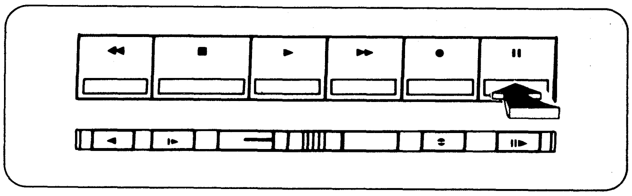


- The VTR uses the Audio Dub Button in the Insert Recording mode.

❽ Start operating the camera or playback of the second video recorder, which you record from.

- During Insert Recording pause operations cannot be performed using the camera's start/stop switch.

❾ The Insert Recording will start as soon as the Pause/Still Button is pressed again.



❿ The Insert Recording will finish at the point where the Tape Counter was reset to "0000", and the VTR will be switched over to the Still mode. However, you can press the Pause/Still Button to suspend the Insert Recording at any time, before this point is reached.

- If the inserted part is recorded from another VTR, the picture quality may be slightly inferior, as it is a second generation recording.
- The sound will not be recorded during Insert Recording, as explained in "AUDIO DUBBING" and "CAMERA RECORDING".
- The picture in the inserted part may be affected by some beat noise and colour blotching, but this is not an indication of trouble.

ORDER NO. VRD-8207-110

Service Manual

Video Cassette Recorder

Panasonic VHS

NV-777-E -EG -B

Vol. 2

Mechanical Adjustment Procedures

Electrical Adjustment Procedures

SPECIFICATIONS

Power Source: 220V AC 50/60Hz (NV-777-E, EG)
240V AC 50/60Hz (NV-777B)
Power Consumption: Approx. 38 watts
Television System: CCIR: 625 lines, 50 fields
PAL colour signal (NV-777-E/-B)
CCIR: 625 lines, 50 fields
PAL/SECAM (DDR) colour signal
(NV-777-EG)
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Colour signal: converted subscarrier phase shift recording
Audio Track: 1 track
Tape Format: Tape width 12.7mm high density tape
Tape Speed: 23.39mm/s
Record/Playback Time: 240 min. with NV-E240
FF/REW Time: Less than 4.5 min. with NV-E180
Heads: Video: 3 rotary heads
1 pair for normal recording and playback (R-L Head)
1 pair for trick play (L-L′ Head) (field still and slow)
Audio/Control: 1 stationary head
Erase: 1 full track erase

Input Level: Video: VIDEO IN connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE IN jack
More than −20dB, 50kΩ
Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE OUT jack
−6dB, less than 1kΩ
RF Modulated: UHF channel 36 ± 4CH
73dBμ ± 4dBμ 75Ω terminated
Weight: 10.4kg
Dimensions: 430(W) × 115(H) × 372(D) mm
Accessory Supplied: 1 pc. DIN-RF Cable VJA0130
1 pc. Video Cassette Tape (NV-777-E/-B)
1 pc. Wireless Remote Controller, NV-A17-E
Optional Accessories: Video cassette tape:
NV-E240 Approx. 344m, 240 min.
NV-E180 Approx. 258m, 180 min.
NV-E120 Approx. 174m, 120 min.
NV-E60 Approx. 88m, 60 min.
Video Camera, WV-2600E, WV-3000E, WV-3200E

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

CONTENTS

SPECIFICATIONS ....Cover
MECHANICAL ADJUSTMENT PROCEDURES 2- 1
DISASSEMBLY OF CABINET PARTS 2- 1
1. Disassembly Flowchart 2- 1
2. Detailed Disassembly Method 2- 1
3. P.C.Board Opening Method 2- 2
ADJUSTMENT PROCEDURES 2- 3
1. Replacement of Upper Cylinder Unit 2- 3
2. Replacement of DD Cylinder Unit 2- 4
3. Adjustment of Safety Switch 2- 4
4. Confirmation of Pressing Force of Pressure Roller ... 2- 5
5. Position Adjustment of Tension Post 2- 5
6. Confirmation/Adjustment of Brake Torque 2- 6
7. Confirmation of Takeup Torque 2- 6
8. Measurement and Adjustment of Back Tension 2- 7
9. Height Adjustment of Reel Tables 2- 8
10. Height Adjustment of Tape Guide Post 2- 9
11. Height Ajdustment of Pull Out Post 2-10
12. Tape Interchangeability Adjustment 2-11
13. Adjustment and Confirmation of A/C Head 2-12
14. Adjustmentof Cam Gear and Mode Select Switch 2-14
Servicing Fixtures & Tools 2-17
ELECTRICAL ADJUSTMENT PROCEDURES 2-18
1. Test Equipment 2-18
2. Adjustment Procedures 2-18
2-1. System Control Section 2-18
2-2. Servo Section 2-19
2-3. Luminance & Chrominance Section 2-23
2-4. Audio Section 2-27
2-5. Programmable Timer Section 2-28
2-6. Infrared Receiver Section 2-29
2-7. TV Demodulator Section (NV-777E/EG) 2-30
2-8. TV Demodulator Section (NV-777B) 2-33
LOCATION OF TEST POINTS & CONTROLS 2-36

MECHANICAL ADJUSTMENT PROCEDURES

DISASSEMBLY OF CABINET PARTS

1. DISASSEMBLY FLOWCHART

This flowchart indicated disassembly steps of the cabinet parts and the PC Boards in order to find the item(s) necessary for servicing.
When reassembling, perform the step(s) in the reverse order.

Notes:
1. When removing the Front Panel, work with care not for breaking the locking portion of the panel.

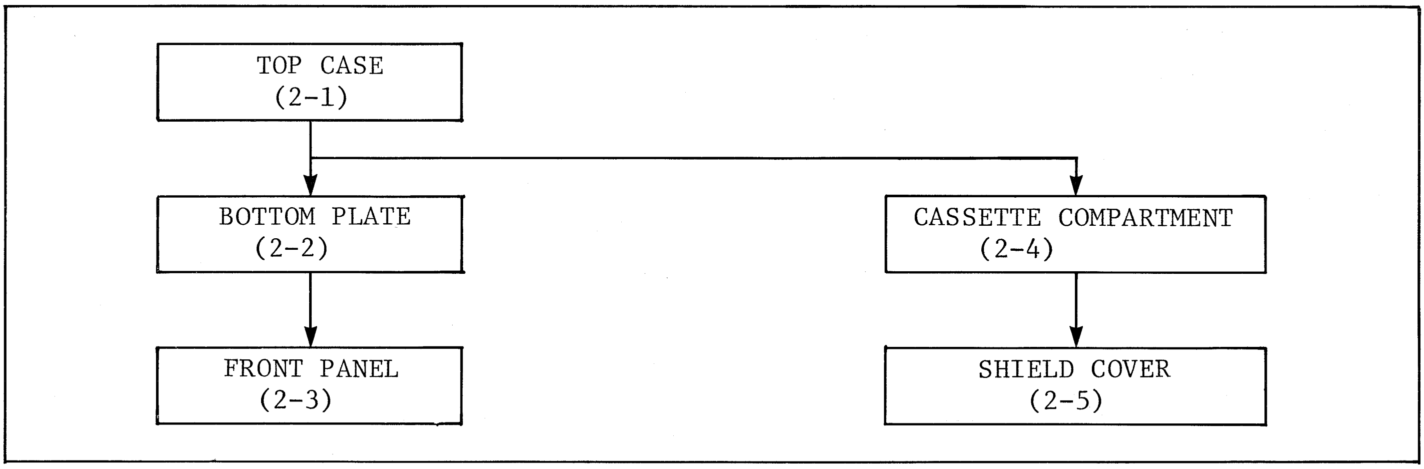

TOP CASE (2-1)
BOTTOM PLATE (2-2)
FRONT PANEL (2-3)
CASSETTE COMPARTMENT (2-4)
SHIELD COVER (2-5)

Fig. M1

2. DETAILED DISASSEMBLY METHOD

2-1. Removal of Top Case

Remove the 4 screws (A). Then carefully lift the rear of case to remove.

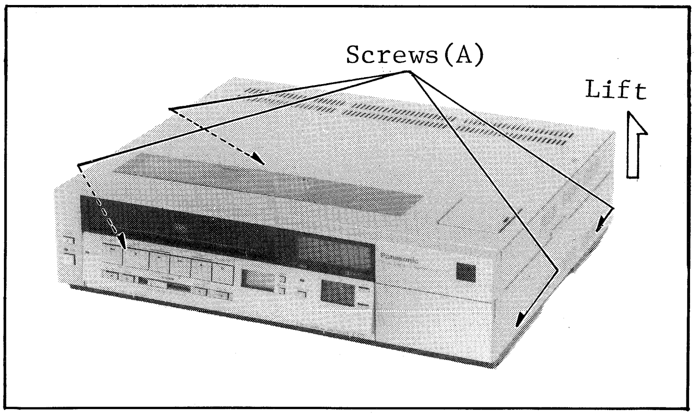

Screws(A)
Lift

Fig. M2

2-2. Removal of Bottom Plate

Place the deck up side down so the bottom side face upward.
Then remove the 6 screws (B) to remove.

Note:
Place the cushion under the deck for not being damaged the top portion of the deck.

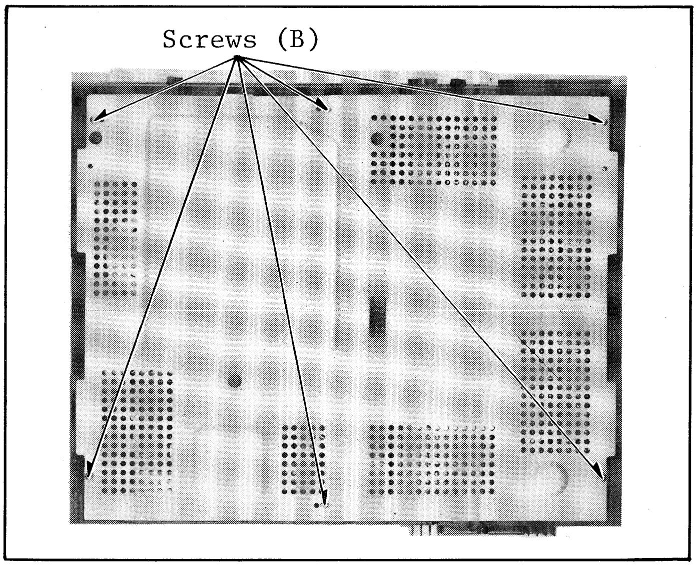


Fig. M3

2-3. Removal of Front Panel

Unlock the 6 locking portions (C). Then hold the top portion of the panel and turn it toward the front of the deck to remove.

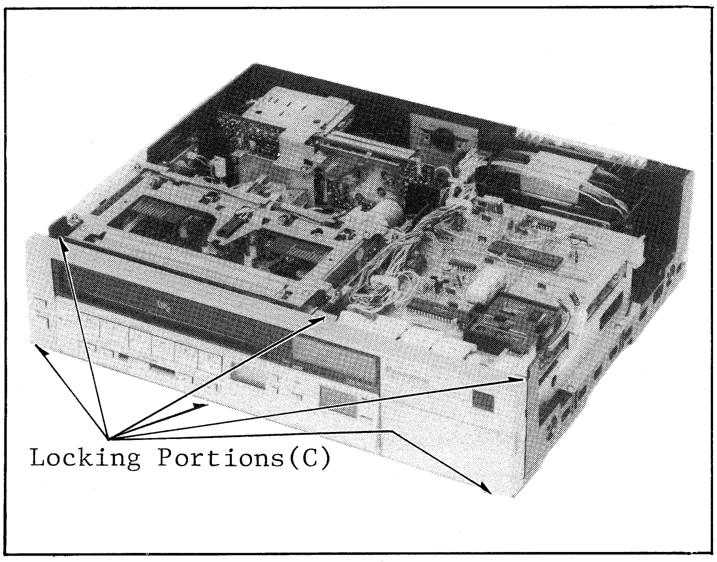

Locking Portions(C)

Fig. M4

2-4. Removal of Cassette Compartment

Disconnect the connector P1505 from the Front Loading Motor Connection P.C.B. Loosen 1 screw (D) and remove 4 red screws (E). Then carefully pull out the cassette compartment.

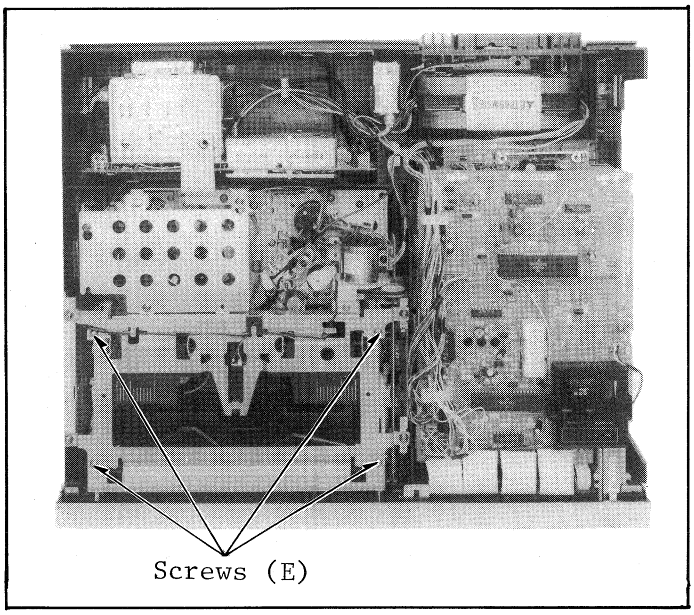


Fig. M5

2-5. Removal of Shield Cover

Loosen 3 screws (F) and remove the Shield Cover.

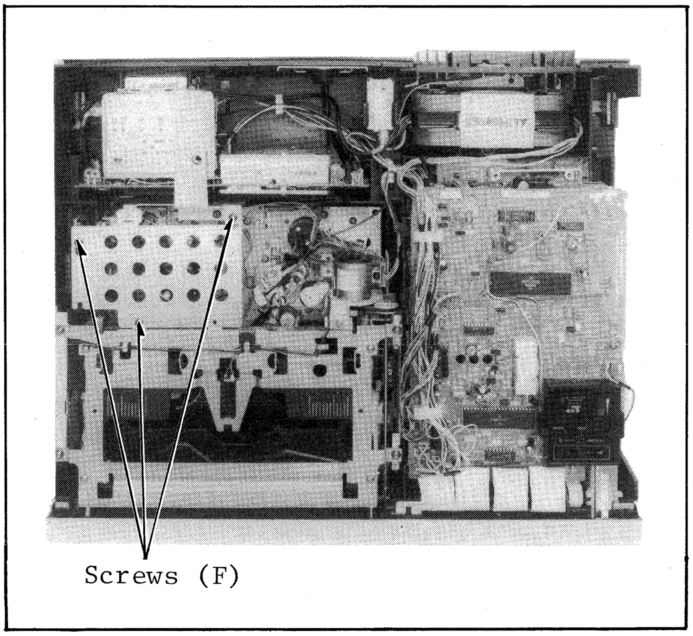


Fig. M6

3. PC Board Openning Method

3-1. Removal of Timer Decoder and Timer Operation PC Board Units

1. Remove the Top Case, Bottom Plate and Front Panel. (Refer to DISASSEMBLY METHOD Item 2-1, 2-2 and 2-3.)
2. Unlock the 4 locking portions (A) and release the some wires from wire clamper.
3. Remove the Infrared Receiver Unit.
4. Lift the Timer Decoder P.C. Board till the 2 locking portions (B) are unlocked and pull it upward to remove.

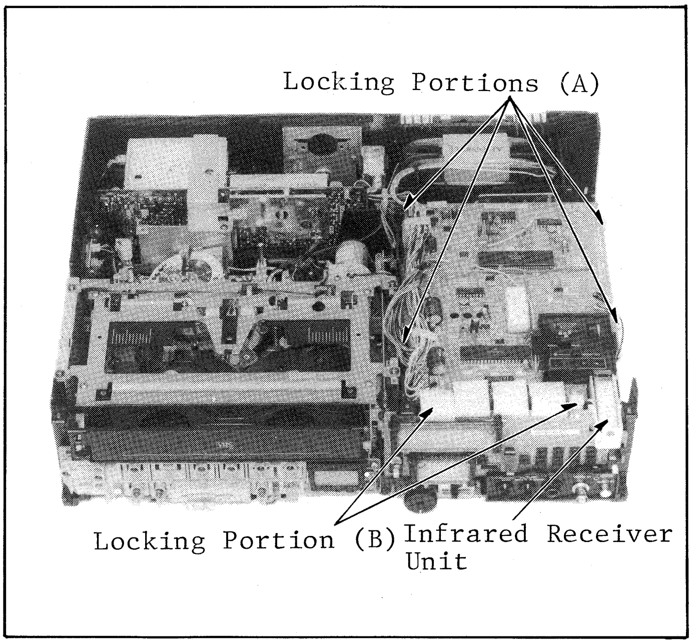

Locking Portions (A)
Locking Portion (B)
Infrared Receiver Unit

Fig. M7

3-2. Openning the Luminance, Chrominance & Audio PC Board Unit

1. Remove the Bottom Plate. (Refer to Disassembly Method Item 2-2.)
2. Remove 3 screws (A) to openning the Luminance, Chrominance & Audio P.C. Board Unit.

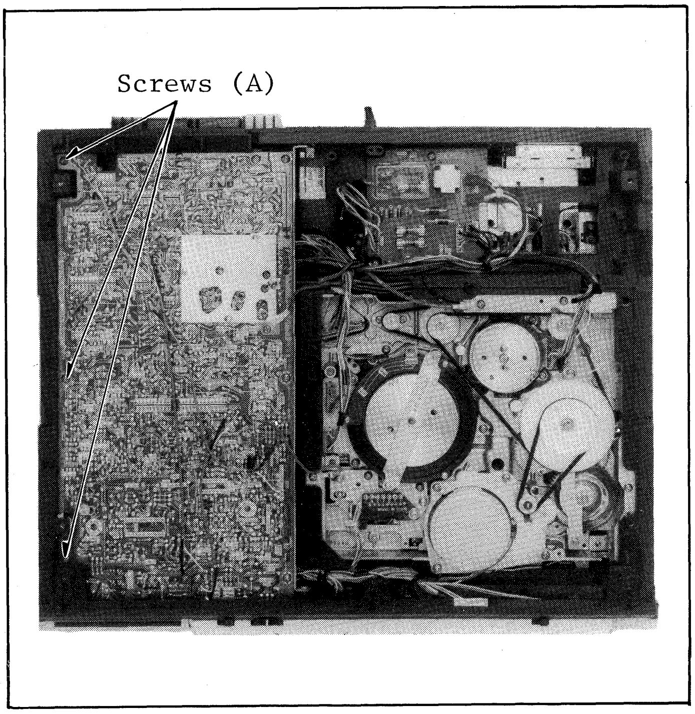


Fig. M8

ADJUSTMENT PROCEDURES

1. Replacement of Upper Cylinder Unit

Work with extreme care when removing or replacing the upper cylinder unit. Do not touch video heads during servicing.

1. Remove the Top Case and Shield Cover. Refer to "Disassembly Method" section.
2. Remove the screw (A) and Discharge Brush Unit. And unsolder the 6 lead wires which are color coded to match lead wires on the head relay board.
3. Remove the 2 screws (B) and gently lift the upper cylinder unit from the shaft.
4. Before reinstalling a new one, clean the DD cylinder shaft and surface engaged with it on the upper cylinder with soft cloth dampened with freon liquid.
5. Reinstall the new one so that the colour code of 6 lead wires match the lead wires on the head relay board and tighten the 2 screws (B).
6. Resolder the 6 leads to head relay board and reinstall the Discharge brush Unit.

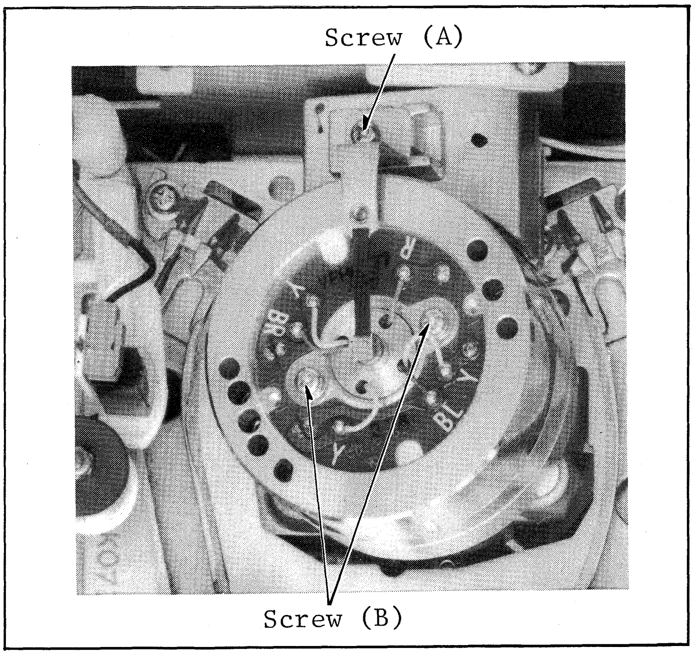


Fig. M9 Removal of Upper Cylinder

Note:

Upon completion of replacement, confirm the performance. And if any further maintenance is required, refer to the "Tape Interchangeability Adjustment" section and perform the necessary items.

2. Replacement of DD Cylinder Unit

Work with extreme care when removing or replacing the DD cylinder unit. Do not touch video heads during servicing.

1. Remove the Bottom plate, Top Case, Front Panel and Shield Cover. Then open the Bottom P.C. Board. Refer to "Disassembly Method" section.
2. Disconnect 3 connectors (P001, P002 and P003) and remove the DD cylinder unit by removing 3 screws (A). Since there is very little clearance between DD cylinder and chassis, remove the cylinder gently and carefully. The P001 is connected to the Servo Section, the P002 is connected to the Video Section and the P003 is Connected to the motor connection P.C. Board.

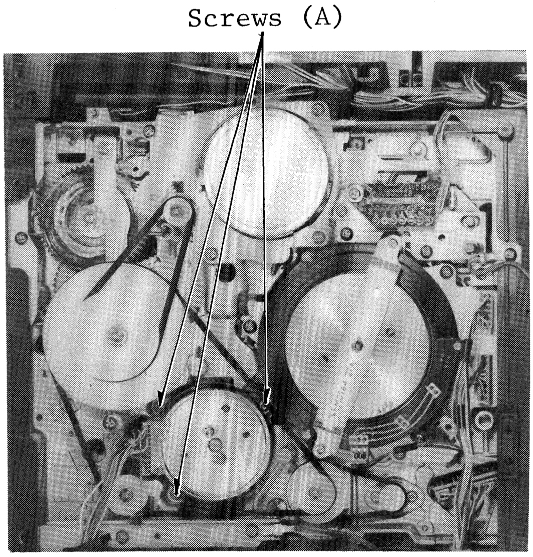


Fig. M10 Removal of DD Cylinder

For P002, first remove the shield case and disconnect the P002.

Note:
Pay particular attention to how these wires are routed along the chassis so that proper lead dress can be restored when the DD cylinder is reinstalled.

3. Remove the upper cylinder unit from the DD cylinder and reinstall it on new one. To perform this step, refer to "REPLACEMENT OF UPPER CYLINDER UNIT" section.
4. Reinstall the new DD cylinder unit to the chassis and restore the leads, connect the P001, P002 and P003, and recover the shield case.

Note:
Upon completion of replacement, confirm the performance. And if any further maintenance is required, refer to the "Tape Interchangeability Adjustment" section and perform the necessary items.

3. Adjustment of Safety Switch

* Specification
When the cassette tape with tab is used, Switch turns on and without tab switch is kept off.

* Equipment Required:
Cassette Holder Fixture (VFK0188)
Retaining Ring Remover (VFK0145)

1. Remove the Top Case, Bottom Plate, Front Panel and the Cassette Compartment, and Open the Video, Colour and Audio P.C. Board Unit.
2. Remove the retaining ring by the retaining ring remover and pull out the Brake Arm (L) Unit.
3. Slightly loosen the 3 screws (A) and (B), and place the fixture.

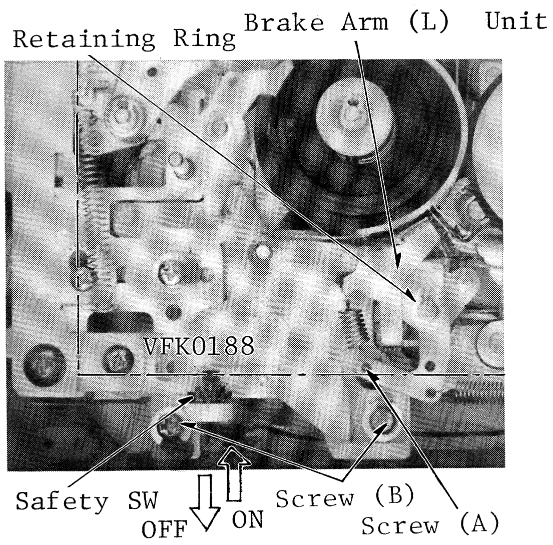


Fig. M11

4. Connect the oscilloscope to P6015-1 and set it to D.C position.
5. Turn the switch base counterclockwise and then slowly twin it clockwise until the switch turns on (Indication of the oscilloscope becomes low level from High level) then tighten the 3 screws (A) and (B).
6. Install the Brake Arm (L) unit and install the retaining ring,

7. After the adjustment, confirm that the switch turns on by using a tape with safety tab and off without tab.

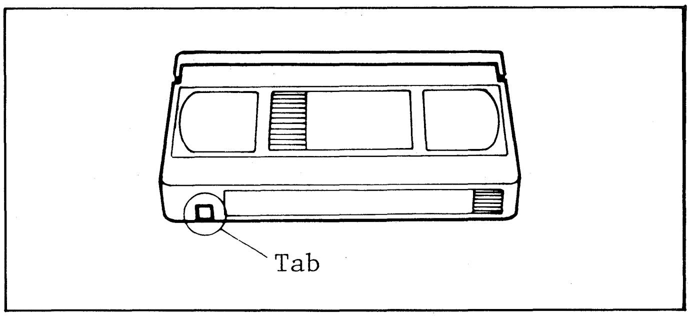


Fig. M12

4. Confirmation of Pressing Force of Pressure Roller

Equipment Required:
Fan-Type Tension Gauge (VFK66)

1. Remove the Top Case.
2. Playback the cassette tape.
3. Set Fan-Type Tension Gauge to the part (A) of Main Pressure Arm Unit.
4. Press the Arm with the Gauge, in the direction indicated by the arrow as shown below.

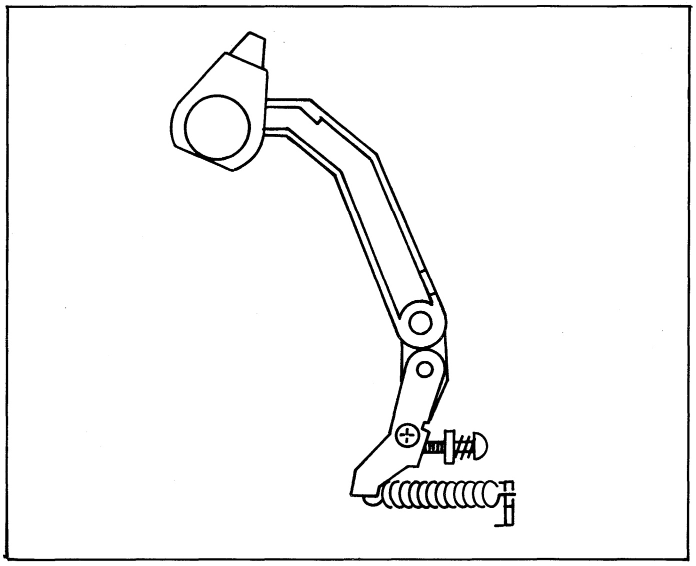


Fig. M13

5. Confirm that reading of the Tension Gauge is 1,600 ± 350 g at the moment of tape stop.

5. Position Adjustment of Tension Post

* Equipment Required:

Tension Post Adjustment Plate	(VFK0187)
Fine Adjustment Screw-driver	(VFK0136)

1. Remove the top case Bottom Plate, Front Panel, and cassette compartment.
2. Insert a Cassette Tape, and Push the play button for loading. As soon as the loading is completed, take out the AC plug.
3. Place the adjustment plate and slightly loosen a screw securing the tension band braket.
4. Insert the fine adjustment screw-driver into the hole and move the tension band bracket in either of direction so the tension post just touches the fixture.

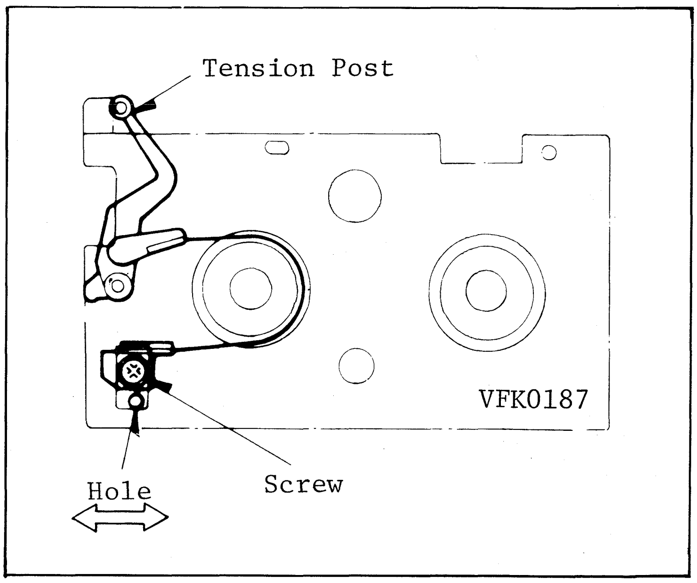
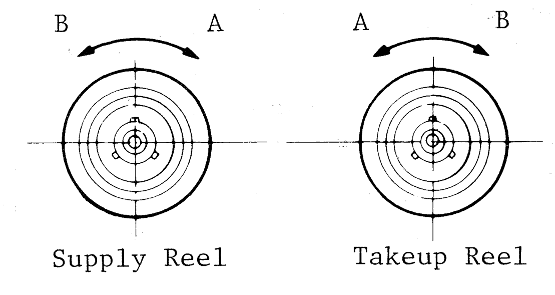


Fig. M14 Adjustment of Tension Post

6. Confirmation/Adjustment of Brake Torque

A. Confirmation Procedure
Equipment Required:
Torque Gauge ..... (VFK0133)
Adaptor for Gauge ... (VFK0134)

Spec.



	A	B
Takeup	450 ∿ 800 g-cm	70 ∿ 150 g-cm
Supply		

Fig. M15 Spec. of Brake Torque

1. Remove the Top Case, Bottom Plate, Front panel and the cassette compartment.
2. Attach the adaptor to the torque gauge and place the deck in STOP mode.
3. Place the torque gauge on the reel table.
   The weight of gauge should be free against the reel table.

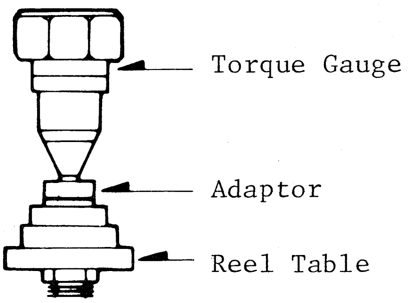


Fig. M16 Measuring Method

4. Turn torque gauge in the direction indicated in the Fig. M15 until the brake begins slipping.

B. Adjustment Procedure
To adjust the brake torque, change the notch.

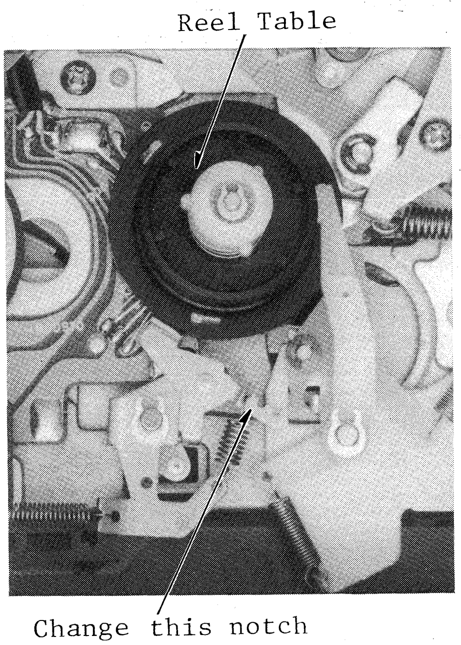


Fig. M17

Note:
If proper brake torque could not obtained by changing the spring position, clean the rotating surface of the reel table with soft cloth and confirm torque before replace it.

7. Confirmation of Takeup Torque

* Equipment Required:
Dial Torque Gauge ... (VFK0133)
Adaptor for Gauge ... (VFK0134)
* Specification
in F.F. .... more than 400 g-cm
in REW .... more than 400 g-cm

1. Remove the Top Case, Bottom Plate, Front Panel and the Cassette Compartment.
2. Insert a cassette tape and attach the adaptor to the torque gauge.
3. Set a torque gauge to the Take-up reel Table, push the FF button and read torque on gauge.

Note:
While measuring, the weight of gauge should not rest on reel table.

4. Set the torque gauge to the Supply Reel Table, press the rewind button for rewind mode. And read the torque on gauge.

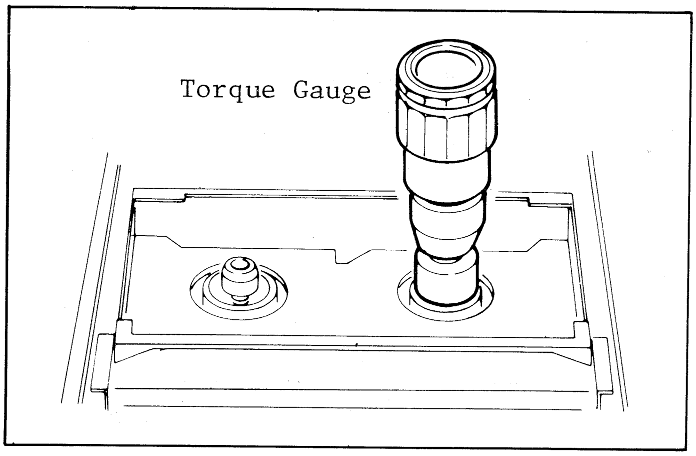


Fig. M18 Measuring Method

Note:
There are no-adjustment here.
If the torque readings are off considerably, rollers or idlers or reel tables may need replacement.

8. Measurement and Adjustment of Back Tension

A. Measurement Procedure
* Equipment Required:
Back Tension Meter (Tentelometer)
VHS Cassette Tape (120 minutes tape)
* Specification: 25 ∿ 30 g

1. Remove the Top Case and Shield Cover.
2. Pull the erase head in the direction indicated by the arrow and hold it by adhesive tape.
3. Play back the cassette tape from its beginning and wait until tape running has stabilized. (for approx. 10 to 20 seconds)
4. Insert tension meter in tape path and confirm reading.

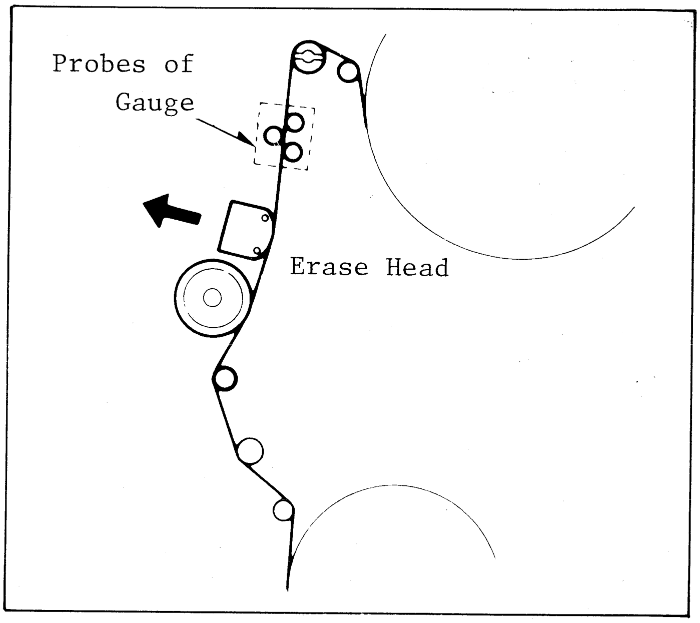


Fig. M19 Measurement of Back Tension

Notes:
1. Make sure that the three probes of the meter are all in good contact with tape, but out of contact with supply inertia roller while measuring.
2. It is recommended to be measured three times as tension meter is very sensitive.

(Adjustment Procedure of this section described on next page.)

B. Adjustment Procedure

* Equipment Required:
Fine Adjustment Screwdriver .... (VFK0136)

1. Remove the Top Case, Bottom Case, Front Panel Cassette Compartment and the Shield Cover.
2. Loosen a screw (A) and insert the fine adjustment screwdriver into the hole (B).
3. Move the adjustment driver in either of direction indicated by the arrow to obtain the specified tension. Turn the driver clockwise to raise the tension, counterclockwise to lower it.
4. Tighten the screw (A), and set the Cassette Compartment verify the tension with the meter once again.

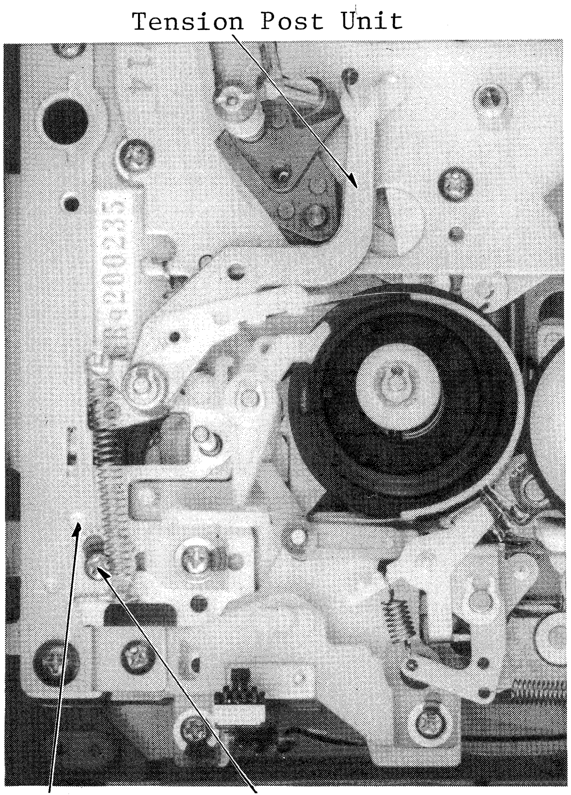


Fig. M20

5. After above the adjustment is completed, remove the adhesive tape.

9. Height Adjustment of Reel Tables

* Equipment Required:
Post Adjustment Plate .. (VFK0138)
Reel Table Height
Fixture .... (VFK0139)
* Specification .... 0 ∿ 0.2mm

1. Remove the Top Case Bottom Plate, Front Panel and the Cassette Compartment.
2. Place the post adjustment plate, put the dial gauge on it and set the dial gauge to zero "0" with the condition that scraper of gauge touches the cut-out portion of the plate.

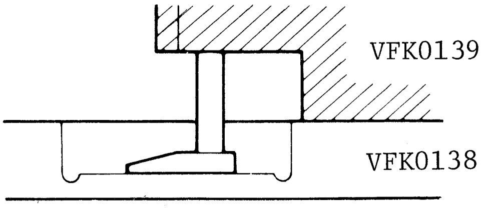


Fig. M21 Adjustment of Reel Table Height-(1)

3. Then measure the top portion of reel table and confirm the difference against the condition just performed in the former step. Also perform the same measurement and confirmation for other reel table.

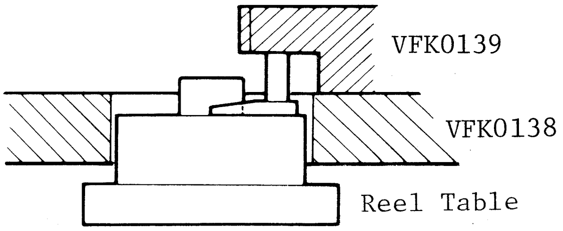


Fig. M22 Adjustment of Reel Table Height-(2)

4. If the difference is more than 0.1mm (high or lower), adjust the height of reel table to obtain the specified height.
5. For the adjustment, change the polyslider washer located under the reel table. The washers of following thicknesses are available.

Washer Thickness	Part No.
0.13mm	XWXV3Z6
0.25mm	XWXV3A6
0.5mm	XWXV3D6

Fig. M23

10. Height Adjustment of Tape Guide Post

* Equipment Required:

Hex. Wrench, (0.9mm) ...	(VFK0146)
Post Adjustment Plate ..	(VFK0138)
Reel Table Height Fixture	(VFK0139)
Nut Driver	(Purchase locally)
Post Adjustment Screwdriver	(VFK0137)

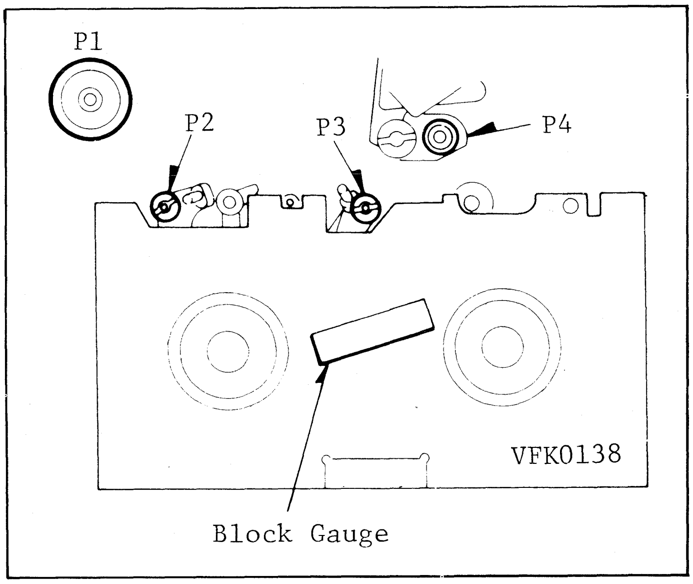


Fig. M24 Location of Posts

1. Remove the Top Case, Bottom Plate, Front Panel, Cassette Compartment and the Shield Cover.
2. Place the post adjustment plate on the 4 cassette support pins correctly and put the block gauge on it. And fit the block gauge against each post for confirmation that the post is positioned lower or higher against the adjustment plate.

2. Loosen the locking hex. screws of posts (P2 & P3), then rotate the top of post counterclockwise with post adjustment screwdriver to raise them as the condition (C) shown below.

3. Then slightly press the block gauge against the post sleeve and rotate the top of the post clockwise with post adjustment screwdriver until to obtain the condition (A) shown below.

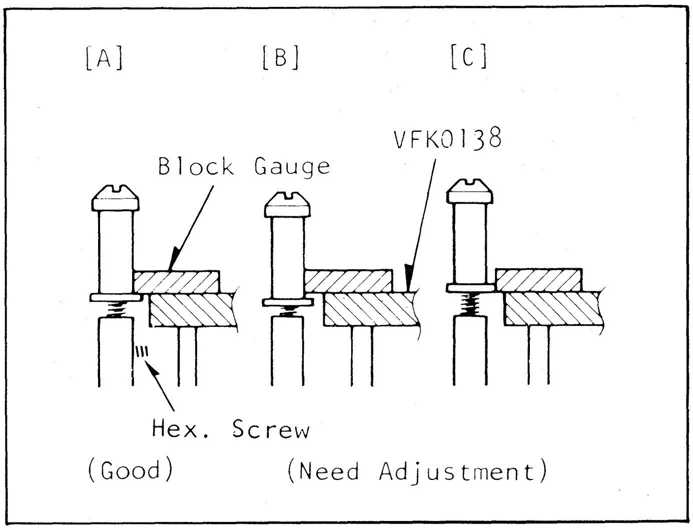


Fig. M25 Height Adjustment

5. Make the same adjustment for posts (P1 & P4) with nut driver.

6. After above the adjustment is completed, tighten hex. screws on the P2 and P3.

11. HEIGHT ADJUSTMENT OF PULL OUT POST

Notes:

1. The adjustment should be performed after the adjustment of P4 as the spec is based on height of P4.
2. The adjustment should be performed in the loading completion mode.
3. Unless the replacement or adjustment of this post is required the adjustment nut should not be turned.

* Equipment Required

Post Adjustment Plate	(VFK0138)
Reel Table Height Fixture	(VFK0139)
Nut Driver	(Purchase Locally)

* Specification .... 0.06±0.02mm

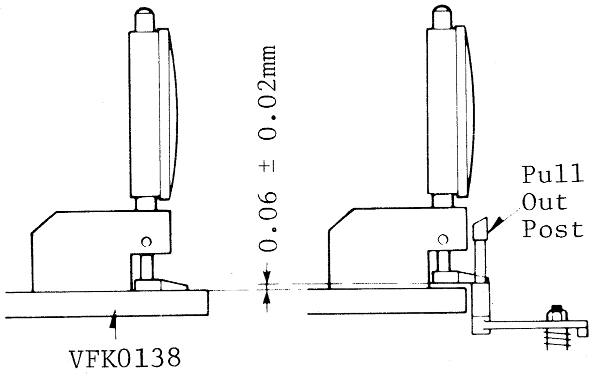


Fig. M26.

1. Remove Top Case, Bottom Plate, Front Panel and the cassette compartment.
2. Turn power switch on, insert a cassette tape and push the play button for loading.
3. As soon as loading is completed plug off.
4. Place the adjustment plate, put the height fixture on the plate and set dial gauge to zero "0" with condition the scraper touches on the plate.

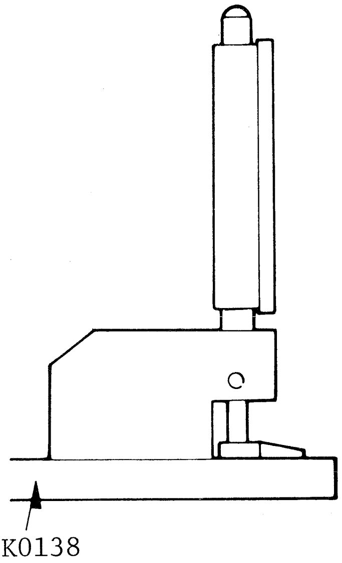


Fig. M27.

5. First, slightly lower the post by turning the nut clockwise. Fit the scraper to the post so the condition becomes as shown.

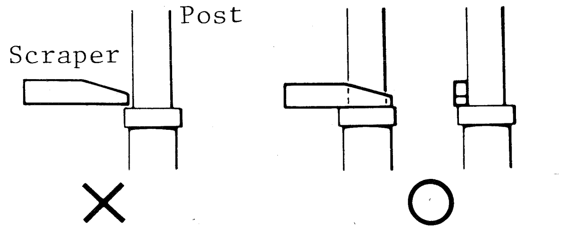


Fig. M28.

6. Then slowly and slightly turn the nut till the gauge reads specified
7. Plug in for unloading before reinstall the cassette compartment.

12. Tape Interchangeability Adjustment

* Equipment Required
  Alignment Tape ..... (VFM8100H3D)
  Post Adjustment
  Screwdriver .... (VFK0137)

1. Remove the Top Case, Botton Plate, and the Shield Plate.
2. Set the tracking control into the detent (fixed) position.
   And connect the oscilloscope th the TP3011.

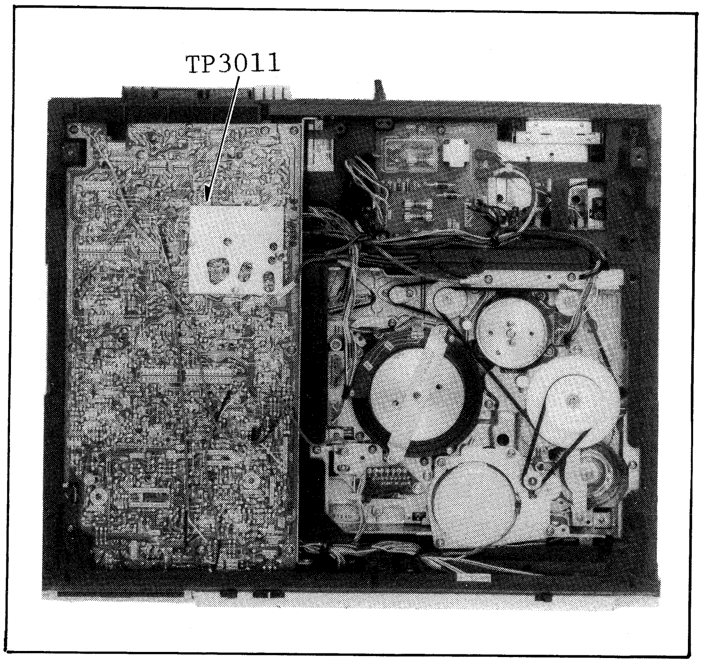


Fig. M29

3. Playback the alignment tape VFM8100H3D, adjust posts P2 and P3 by watching the scope display (Envelope of TP3011 on Main PC Board) so the RF envelope on the scope becomes as flat as possible.
   (V1/V-max. ≧ 0.7, V2/V-max. ≧ 0.8)

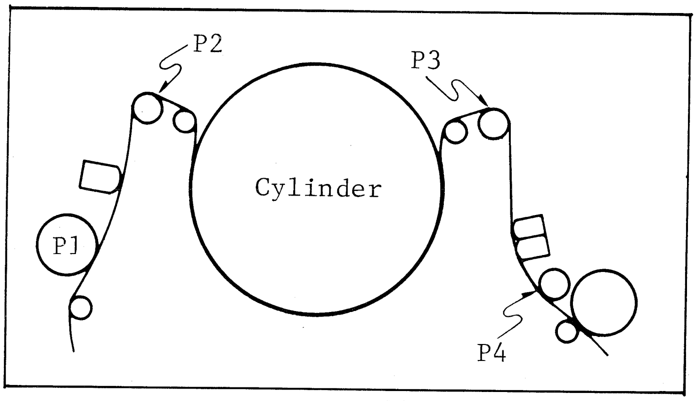


Fig. M30

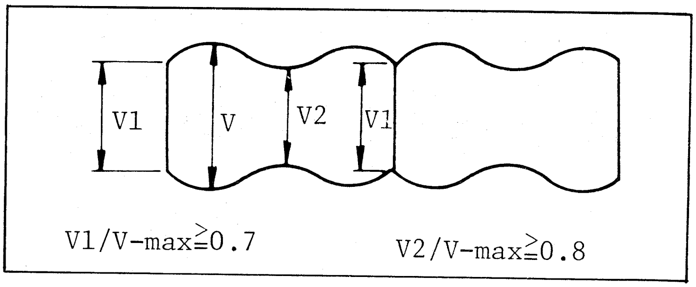
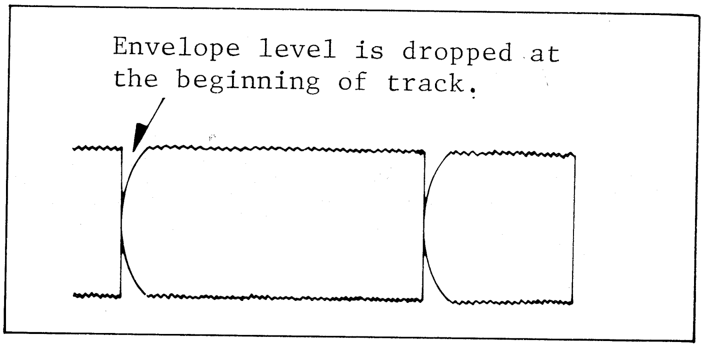


Fig. M31

4. When the scope display is as follows, adjust the height of P2 as shown below.



Envelope level is dropped at the beginning of track.

Fig. M32-(a)

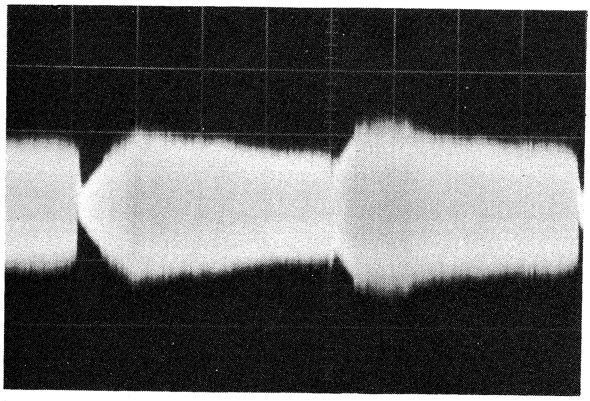
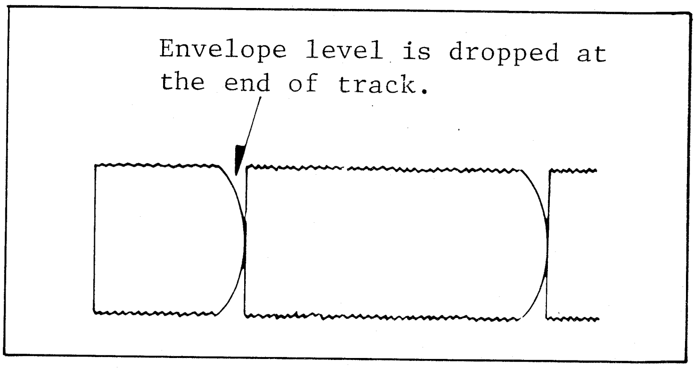


Fig. M32-(b)

5. When the scope display is as follows, adjust the height of P3 shown below.



Envelope level is dropped at the end of track.

Fig. M33-(a)

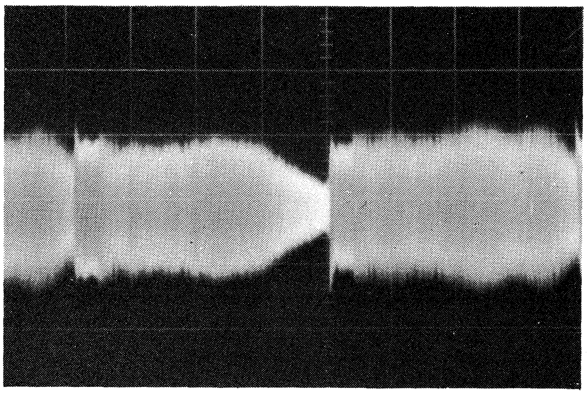


Fig. M33-(b)

6. The scope display with P2 and P3 adjusted correctly should become as shown below.

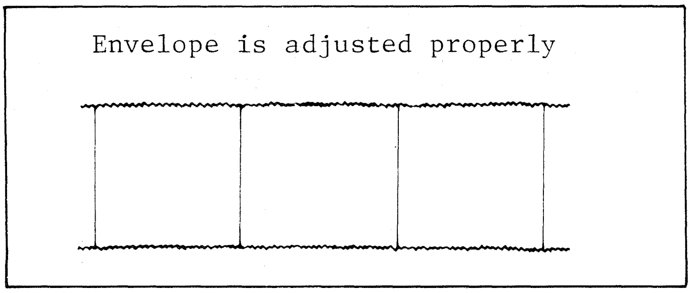


Fig. M34-(a)

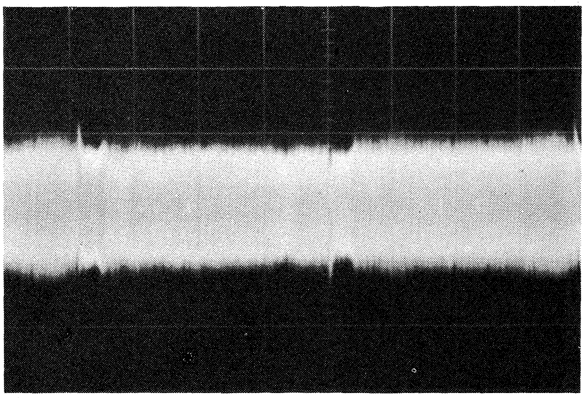


Fig. M34-(b)

7. When the adjustment is required, turn the top of post with the post adjustment screwdriver.

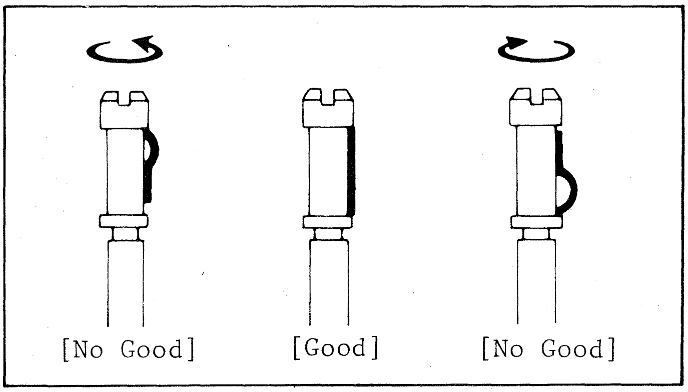


Fig. M35

13. Adjustments and Confirmations of A/C Head

14-1. Horizontal Position Adjustment of A/C Head

* Equipment Required:
H-Position Adjustment Screwdriver .... (VFK0189)

1. Set the tracking control into the detent (fixed) position. And connect the oscilloscope to the TP3011.
2. Playback the alignment tape VFM8100H3D and confirm the envelope figure.
3. If the adjustment is required, set the H-position adjustment screwdriver into the slot of the adjustment nut and rotate in either of direction to obtain maximum envelope output.

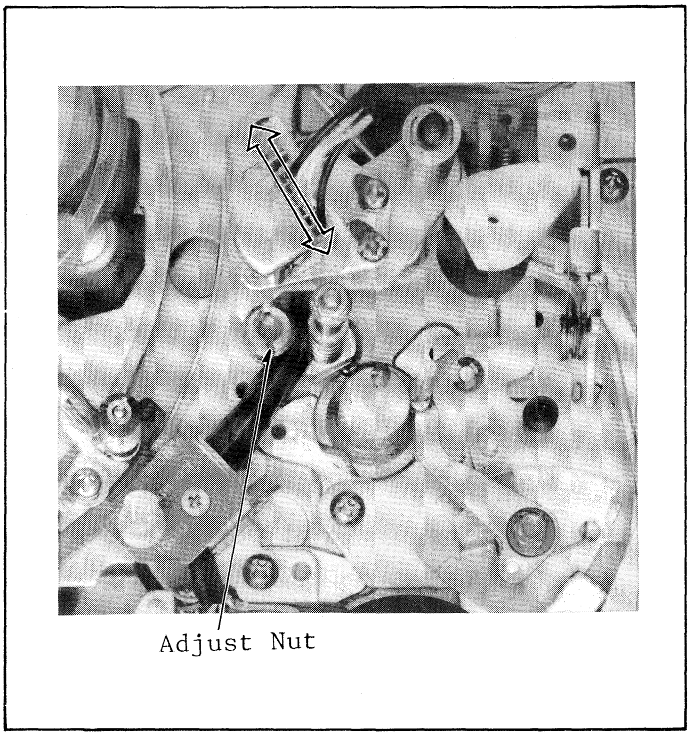


Fig. M36

13-2. Confirmation/Adjustment of A/C Head Height

A. Confirmation Procedure
Looking at the lower edge of the control head with the tape running, ensure the lower edge of tape runs along the lower edge of the control head.

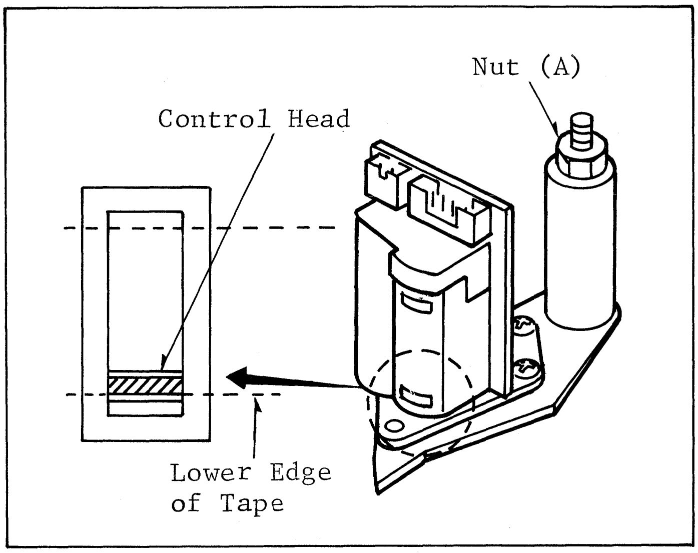

Nut (A)
Control Head
Lower Edge of Tape

Fig. M37

B. Adjustment Procedure
Slightly turn the nut (A) in either directions to correct it. Turn clockwise to lower the head and counterclockwise to raise it.

Note:
Unless the A/C Head is replaced, this adjustment should not be done.

13-3. Tilt Adjustment of A/C Head

* Equipment Required:
Hex. Wrench, (1.5mm) ... (VFK76)

A. Pre-Adjustment Procedure
Playback the tape and confirm the tape runs between lower and top limiters of the post P4. If the lower edge or top edge of the tape turns with waving or frilling, then correct the tilt of the A/C head by turning a hex. screw. (A hex. screw indicated in Fig. M39.)

Note:
Unless the post P4 is pre-adjusted, this pre-adjustment procedure should not be done. (Refer to the section of "Height Adjustment of Tape Guide Posts".

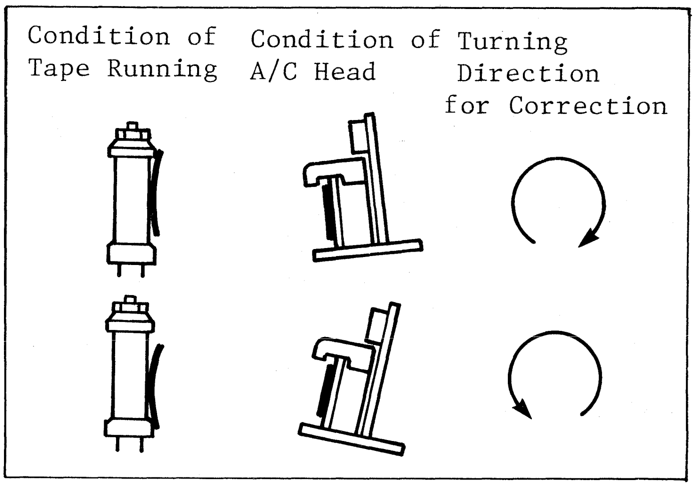

Condition of Tape Running
Condition of A/C Head
Turning Direction for Correction

Fig. M38 Tilt Pre-Adjustment

B. Adjustment Procedure

1. Connect the oscilloscope to Test Point TP3011 on the Video Section.
2. Playback the monoscope portion of the alignment tape, VFM8100H3D and adjust the hex. screw so the RF envelope output level becomes maximum.

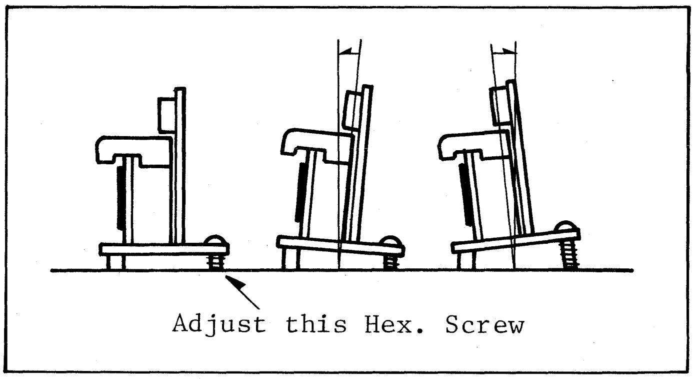

Adjust this Hex. Screw

Fig. M39

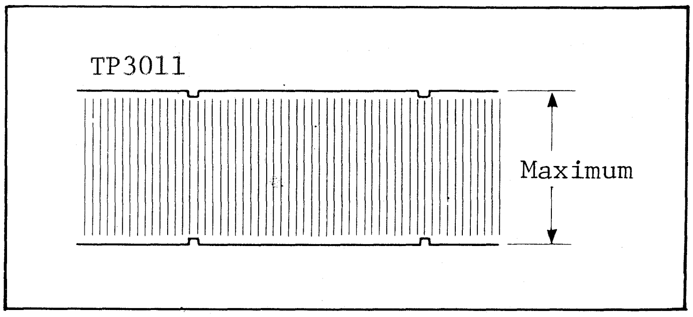

TP3011
Maximum

Fig. M40

13-4. Audio Azimuth Adjustment

* Equipment Required:
VHS Alignment Tape VFM8100H3D

1. Connect the oscilloscope to the audio output on the rear of the deck.
2. Playback the alignment tape(6kHz, Audio) VFM8100H3D.
3. Adjust screw (A) without spring on the head base so the output level becomes maximum.

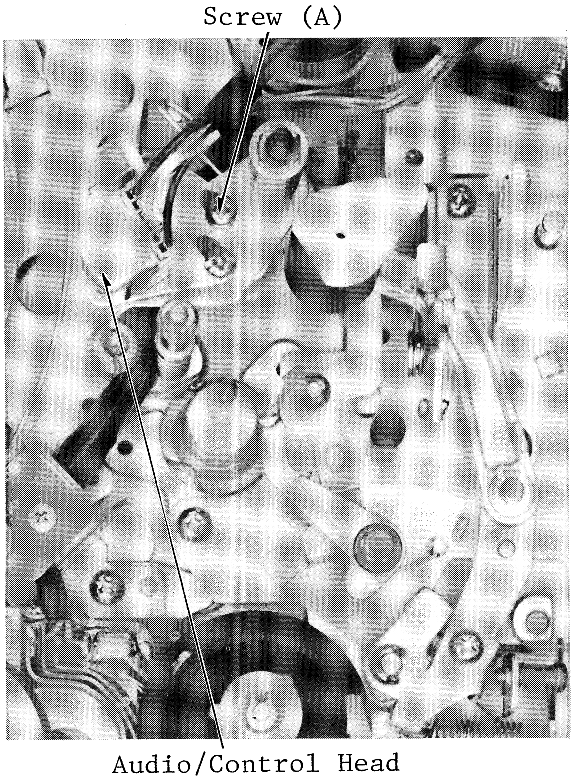


Fig. M41

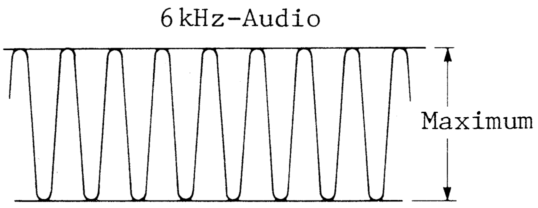


Fig. M42

14. Adjustment of Cam Gear and Mode Select Switch

General Condition:

The mechanism of this model is mostly engaged to the electrical circuit, System Control Circuit, through the mode select switch. Therefore the relation between the mode switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on.
If the adjustment of this item is performed inproperly, the deck will be unloaded or compulsorily stopped. And it will result being damaged at any mechanical or electrical parts.

Note:
Before the adjustments turn power switch on insert a cassette tape and set the mode select switch to the stop position, and plug off.

A. Adjustment Procedures of Cam Gear

1. Turn Loading gear clockwise until the post 2 and 3 were fully unloaded. The small projection on the loading gear will be top portion under the condition of Unloading Completion.

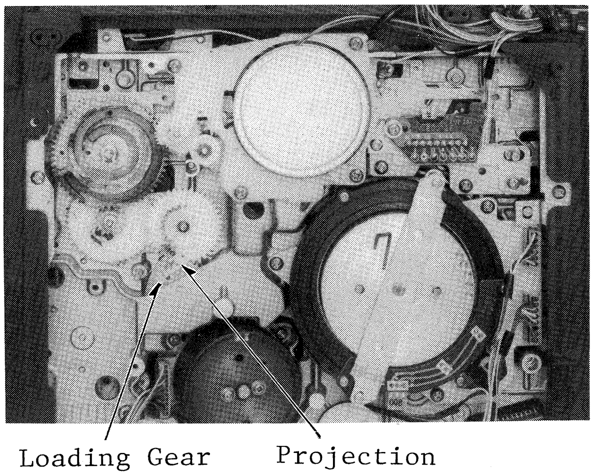


Fig. M43

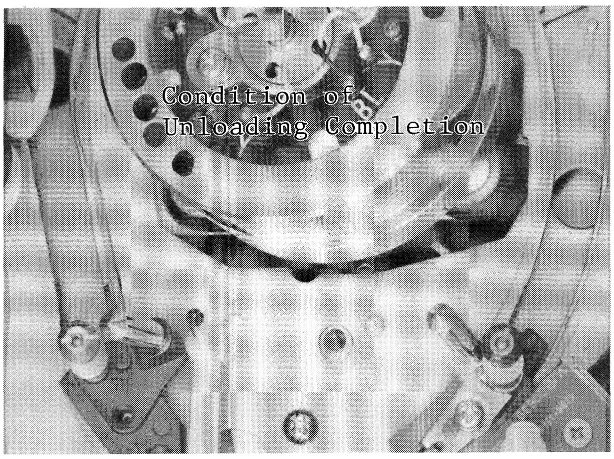

Condition of
Unloading Completion

Fig. M44

2. Install the action gear so the hole on the action gear meets the projection on the loading gear. Ensure that the loading gear is still in the condition of the unloading completion.

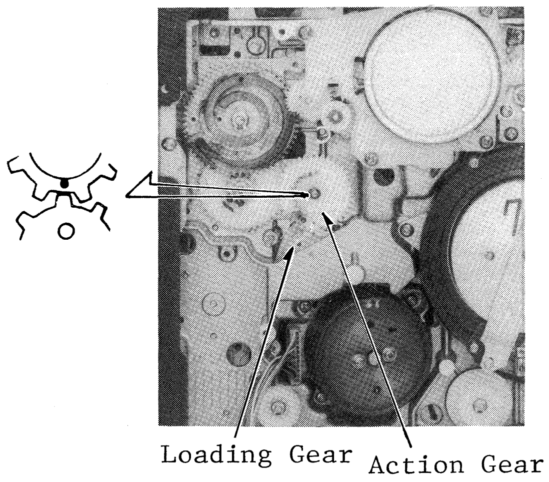

Loading Gear
Action Gear

Fig. M45

3. Slowly slide the main rod so the V-shaped mark meet the V-shaped mark of the mode select switch. With the result, main rod and mode select switch are in a position to be stop (unloading completion) mode.
4. Insert the cam gear so the hole (A) on the gear meets the hole on the main rod. To meet the two holes easier, use the small hex. wrench (VFK75) or metal pin.
   Also ensure the two V-shaped marks are fixed.

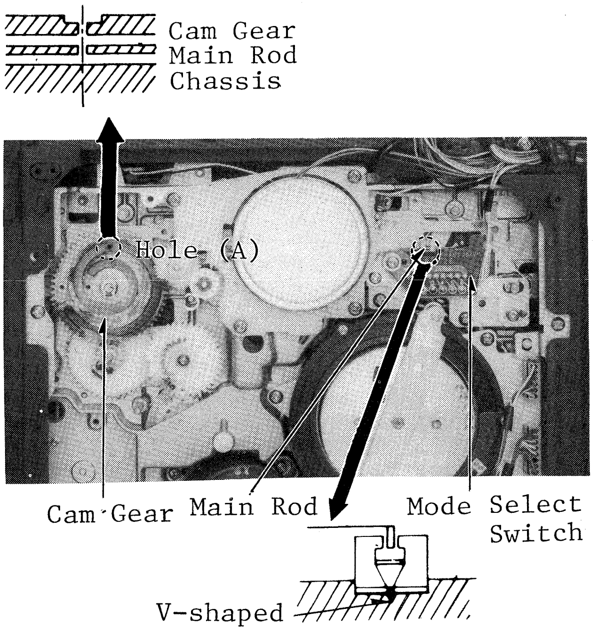

Cam Gear
Main Rod
Chassis
Hole (A)
Cam Gear
Main Rod
Mode Select Switch
V-shaped

Fig. M46

5. Install the sector gear so the pin on the sector gear meets the inner slot of the cam gear (simple slot side). And install 2 retaining rings to mount cam gear and sector gear.

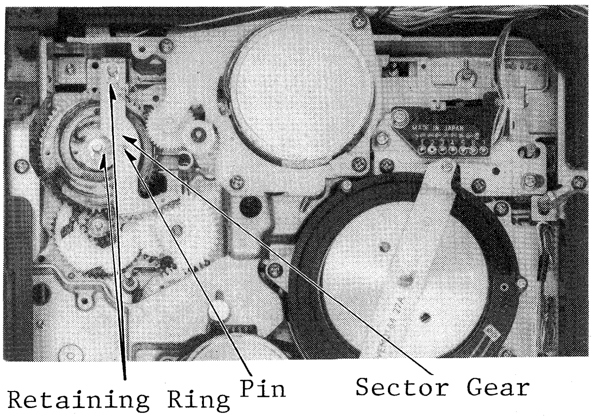

Retaining Ring
Pin
Sector Gear

Fig. M47

6. Final figure should become as shown below, and at the same time two V-shaped marks are fixed at the mode select switch.

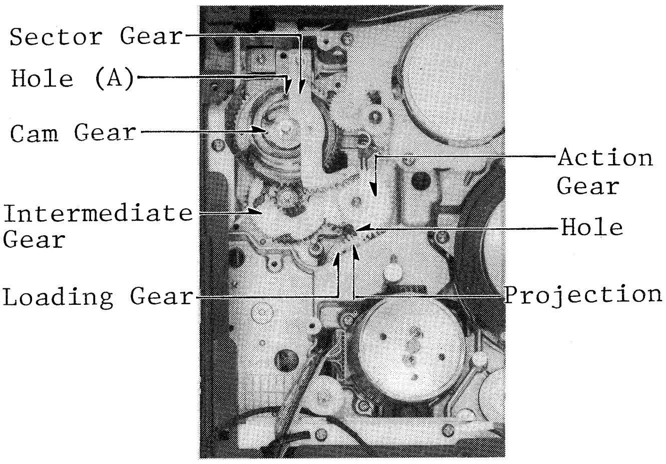

Sector Gear
Hole (A)
Cam Gear
Action Gear
Intermediate Gear
Hole
Loading Gear
Projection

Fig. M48

7. Install the gear protector and tighten the nut for mounting it. And install the large gear so the teeth of it contact the outer teeth of the intermediate gear. Then install a retaining ring to mount it.
8. Install the belts and belt cover and tighten a screw (C). Turn the large pulley in both direction to confirm the smooth movement of this mechanism.

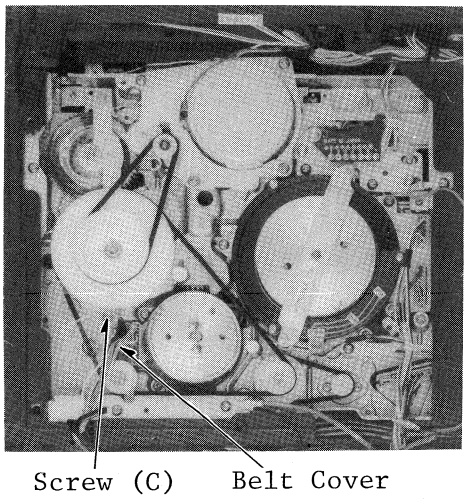

Screw (C)
Belt Cover

Fig. M49

B. Adjustment Procedures of Mode Select Switch

* Equipment Required:
Fine Adjustment Screwdriver
.... (VFK0136)

1. Fix the main rod in the condition of unloading completion.
2. Slightly loosen two screws (A) and the fine adjustment screwdriver into the hole (B).
3. Turning the fine adjustment screwdriver, adjust the position of the mode select switch so that the two V-shaped marks of the mode select switch just correspond at the same position. Then tighten two screws (A).
4. Make sure that the movement of the deck is in normal condition.

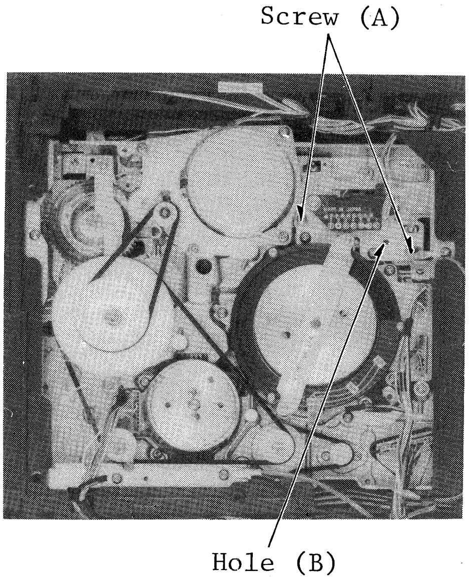
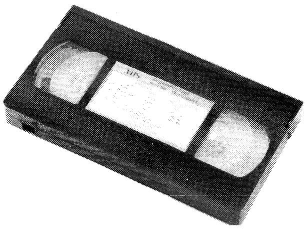

Screw (A)
Hole (B)

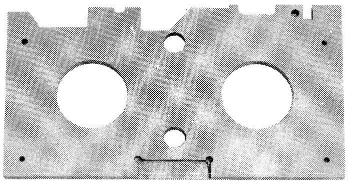
Fig. M50

Servicing Fixtures & Tools

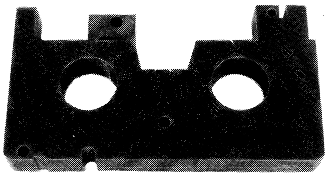
VFM8100H3D VHS Alignment Tape



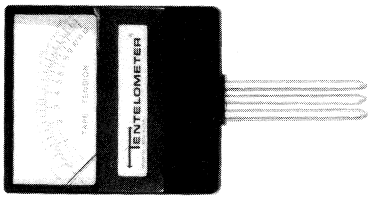
VFK0138 Post Adjustment Plate



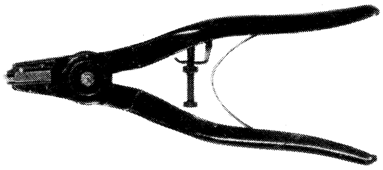
VFK0188 Cassette Holder Fixture



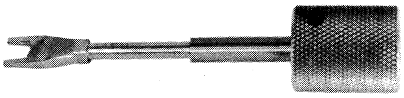
Back Tension Meter
(Tentelometer, Made in U.S.A.)



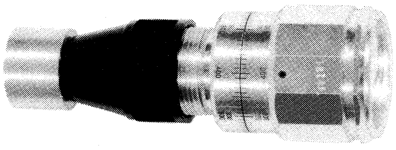
VFK0144 Retaining Ring Remover (3mm)
VFK0145 Retaining Ring Remover (4mm)



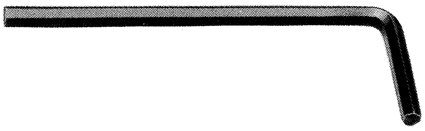
VFK0189 H-Portion Adj. Fixture



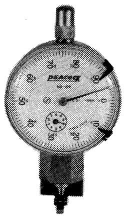
VFK0133 Dial Torque Gauge
VFK0134 Adaptor for VFK0133
VFK0180 (Plastic Clamper Only)



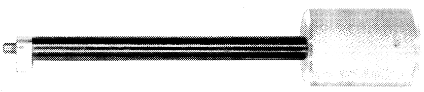
VFK0146 Hex. Wrench (0.9mm)
VFK75 Hex. Wrench (1.25mm)
VFK76 Hex. Wrench (1.5mm)



VFK0139 Reel Table Height Jig

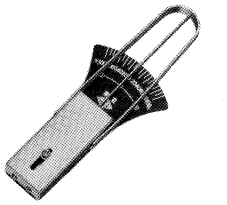


VFK0135 Eccentric Screwdriver

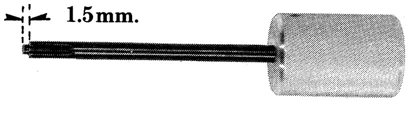


VFK0225 Head Tester

VFK66 Fan Type Tension Gauge



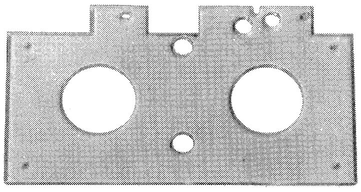
VFK0136 Fine Adjustment Screwdriver



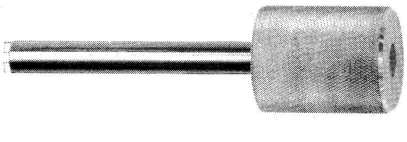
Grind the top portion approximately 2.5mm.

VFK0185 Cleaning Cassette Tape

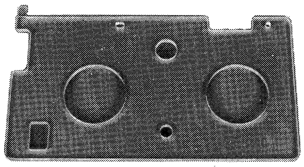
VFK0141 Capstan Reference Plate



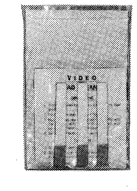
VFK0137 Post Adjustment Screwdriver



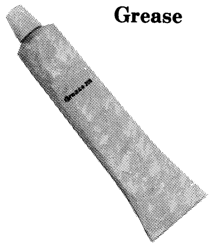
VFK0187 Tension Post Adj. Fixture



VFK27
Head Cleaning
Stick



MOR265 Morlytone Grease



ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuits of VHS video cassette recorder.

1. Test Equipments

To perform the electrical adjustments completely, following equipment is required.

1. VTVM (Vacuum Tube Volt Meter) or
   DVM (Digital Volt Meter)
   Voltage Range: 0.001 - 50V
2. Dual-Trace Oscilloscope
   Voltage Range: 0.005 - 50V/div.
   Frequency Range: DC - 10MHz
   Probes: 10:1 or 1:1
3. Frequency Counter
   Frequency Range: 0 - 10MHz
4. Signal Generator (Sinewave)
   Frequency Range: 0 - 10MHz
5. Video Sweep Generator
   Frequency Range: 0 - 10MHz
6. Colour Receiver or Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFM8100H3D)

2. Adjustment Procedures

These adjustment procedures consist of the following sections.

1. System Control Section.
2. Servo Section
3. Luminance & Chrominance Section
4. Audio Section
5. Programmable Timer Section
6. Infrared Receiver Section
7. TV Demodulator Section
   (NV-777E/EG)
8. TV Demodulator Section
   (NV-777B)

2-1. System Control Section

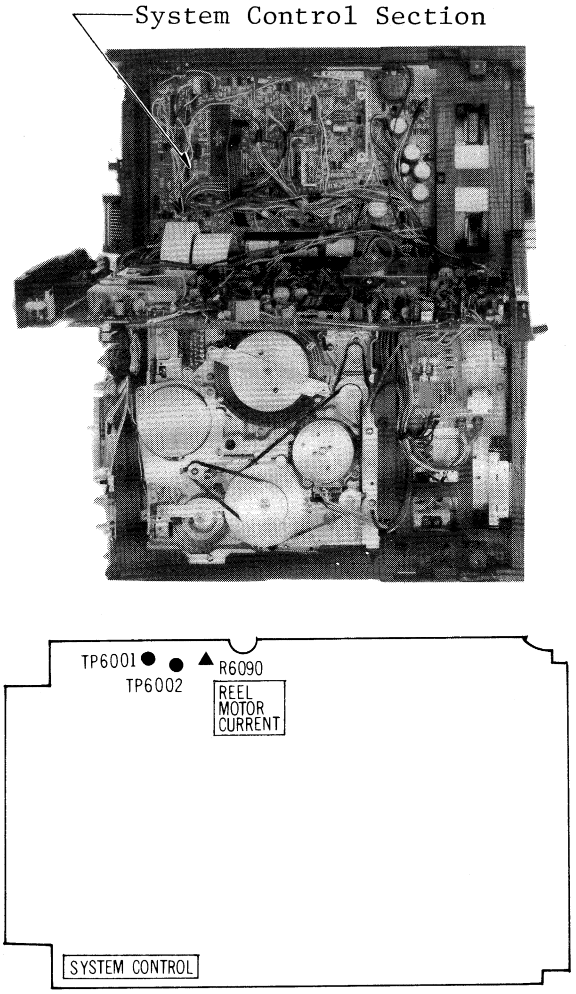


Fig. E1 System Control Section

2-1-1. Reel Motor Current Control Adjustment

Test Points: TP6001, TP6002
Adjustment: R6090 (MOTOR CURR)

1. Connect the DVM between TP6001 and TP6001 and TP6002 both on the System Control P.C. Board Unit.

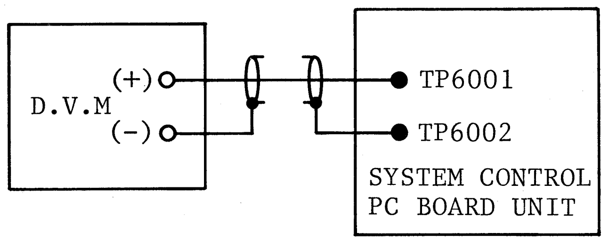

D.V.M
(+)
(-)
TP6001
TP6002
SYSTEM CONTROL
PC BOARD UNIT

Fig. E2

2. Place the deck to REC.PLAY mode and make sure that the indication of DVM is to meet spec.

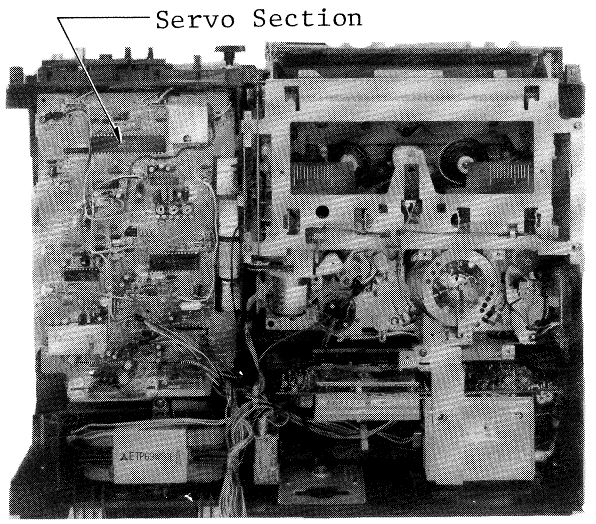
SPEC.

MARKING	VOLTAGE(mV)	MARKING	VOLTAGE(mV)
BLACK	190 ∿ 200	BLUE	160 ∿ 170
ORANGE	180 ∿ 190	GREEN	150 ∿ 160
RED	170 ∿ 180		

Fig. E3

3. If it is out of spec., then adjust R6090 (MOTOR CURR) for to meet spec.

2-2. Servo Section


Servo Section

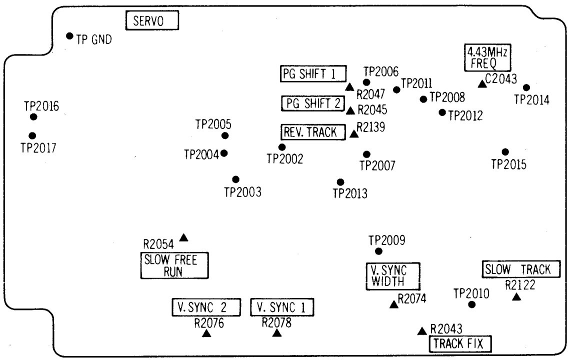

SERVO
TP GND
TP2016
TP2017
TP2005
TP2004
TP2003
TP2002
PG SHIFT 1
PG SHIFT 2
REV. TRACK
R2047
R2045
R2139
TP2006
TP2011
TP2008
TP2012
TP2007
TP2013
4.43MHz FREQ
C2043
TP2014
TP2015
R2054
SLOW FREE RUN
V. SYNC 2
R2076
V. SYNC 1
R2078
TP2009
V. SYNC WIDTH
R2074
TP2010
SLOW TRACK
R2122
R2043
TRACK FIX

Fig. E4

2-2-1. Fine Slow Free Run Adjustment

Test Points: TP2009, TP2013
Adjustment: R2054 (SLOW FREE RUN)

1. Place the deck to REC.PLAY mode and connect the jumper between TP2013 and GND both on the Servo PC Board Unit.
2. Connect the frequency counter to TP2009 on the same board.
3. Adjust R2054 (SLOW FREE RUN) on the same board so that the indication of frequency counter becomes 1286 ± 20 Hz.

2-2-2. Reference Oscillator Frequency Adjustment

Test Point: TP2001
Adjustment: C2043 (4.43M FREQ)

1. Do not supply any video signal to the VIDEO INPUT on the front panel.
2. Connect the frequency counter to TP2001 on the Servo PC Board Unit.
3. Adjust C2043 (4.43M FREQ) on the same board so that the indication of frequency counter becomes 4.433619 MHz ± 10Hz.

2-2-3. PG Shifter Adjustment

Test Points: TP2011, TP3012
Adjustments: R2045 (PG SHIFT 2)
R2047 (PG SHIFT 1)

1. Connect the oscilloscope CH1 to TP2011 on the Servo P.C. Board Unit and CH2 to TP3012 on the Luminance Section.
2. Set the oscilloscope to CHOP mode and use TP2011 to trigger the scope.
3. Playback the alignment tape (VFM8100H3D) and expand the V-sync portion on the oscilloscope.
4. Adjust R2047 (PG SHIFT 1) on the Servo P.C. Board Unit so that the falling edge of Head Switching Pulse becomes 6H ± 0.5 before from V-sync portion.

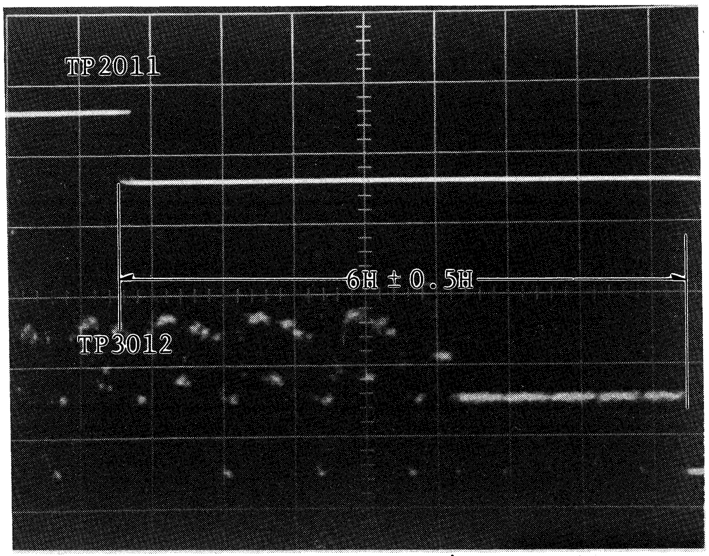


Fig. E5 TP2011 5V/50μsec.div.
TP2012 0.5V/50μsec.div.

5. Switch the slope selector on the scope to either (+) or (-) and adjust R2045 (PG SHIFT 2) on the same board so that the difference between rising edge and falling edge bocomes less than 10 sec.

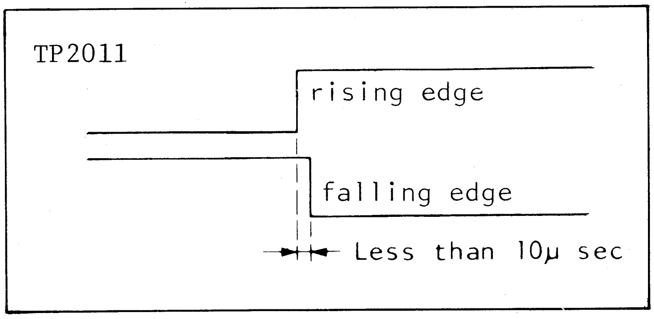


Fig. E6 Switching Edge Difference

2-2-4. Tracking Fix Adjustment

Test Points: TP2011, TP2012
Adjustment: R2043 (NOR PLAY TRACKING)

1. Set the TRACKING VR on the front panel to center detent position.
2. Supply colour bar signal to the VIDEO INPUT on the same panel and make a recording for a few minutes.
3. Connect the oscilloscope CH1 to TP2011 and CH2 to TP2012 both on the Servo P.C. Board Unit.
4. Playback the just recorded portions, and adjust R2043 (NOR PLAY TRACKING) on the same section so that the "T" portion becomes 0.4 ± 0.4msec.

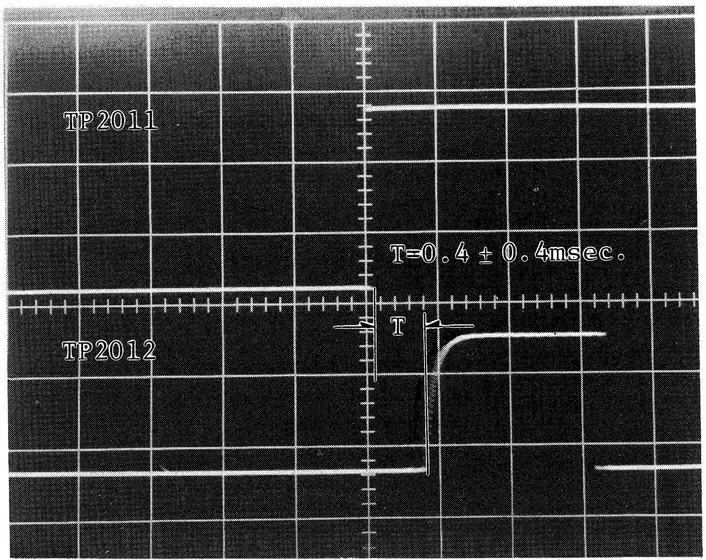


Fig. E7 TP2011 2V/0.2msec.div.
TP2012 2V/0.2msec.div.

2-2-5. Slow Tracking Fix Adjustment

Test Point: Monitor TV
Adjustment: R2122 (SLOW TRACKING)

1. Supply colour bar signal to the VIDEO INPUT on the front panel and make a recording for a few minutes.
2. Playback the just recorded portions and place the deck to SLOW mode.
3. Set the SLOW TRACKING VR to center detent position and SLOW SPEED VR moves fully right side, both on the front panel.
4. Adjust R2122 (SLOW TRACKING) on the Servo P.C. Board Unit so that the noise band is minimum on the TV screen.

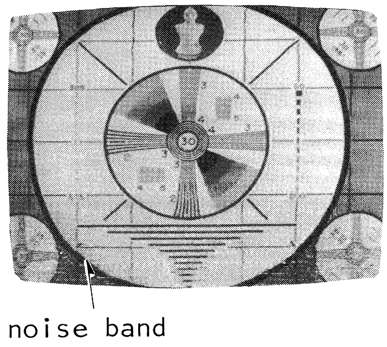


Fig. E8 Noise Band on the TV Monitor

5. Confirm that the noise band is minimum on the TV screen when SLOW SPEED VR moves between left side and right side.

2-2-6. Reverse Play Tracking Fix Adjustment

Test Point: Monitor TV
Adjustment: R2139 (R. PLAY TRACKING)

1. Supply colour bar signal to the VIDEO INPUT on the front panel.
2. Set the TRACKING VR on the same panel to center detent position.
3. Insert the cassette tape and make a recording for a few minutes.
4. Playback the just recorded portions and place the deck to REV.PLAY mode.
5. Adjust R2139 (R. PLAY TRACKING) on the Servo PC Board Unit so that the noise band is disappeared on the TV screen.

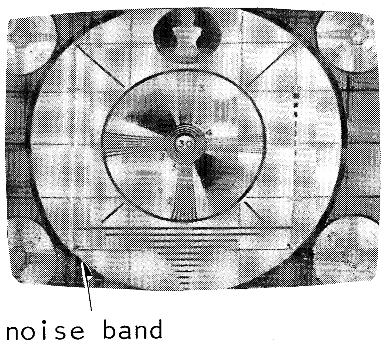


Fig. E9 Noise Band on the TV Monitor

2-2-7. Artificial V-Sync Pulse Width Adjustment

Test Points: TP2010, TP2011
Adjustment: R2074 (V SYNC WIDTH)

1. Playback the alignment tape VFM8100H3D and place the deck to PLAY/STILL mode.
2. Connect the oscilloscope CH1 to TP2011 and CH2 to TP2010 both on the Servo P.C. Board Unit.

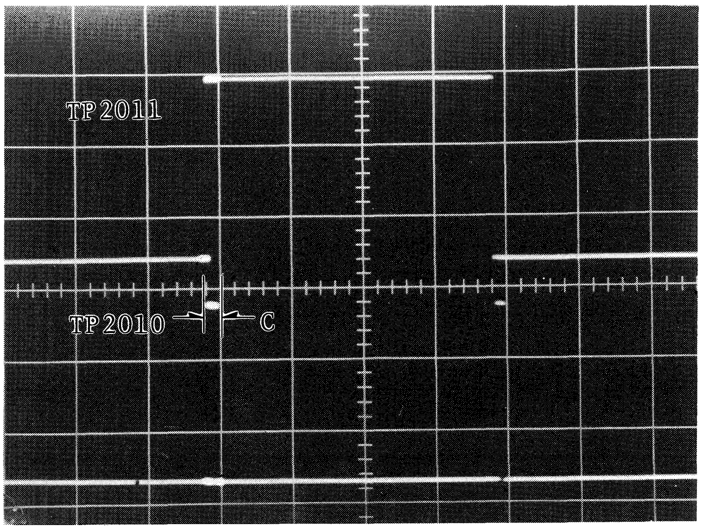


Fig. E10-(a) TP2011 2V/5msec.div.
TP2010 2V/5msec.div.

3. Set the scope to the Delay mode and expand the "C" portion.
4. Adjust R2074 (V SYNC WIDTH) on the same board so that the pulse width "C" becomes 420 ± 20µsec.

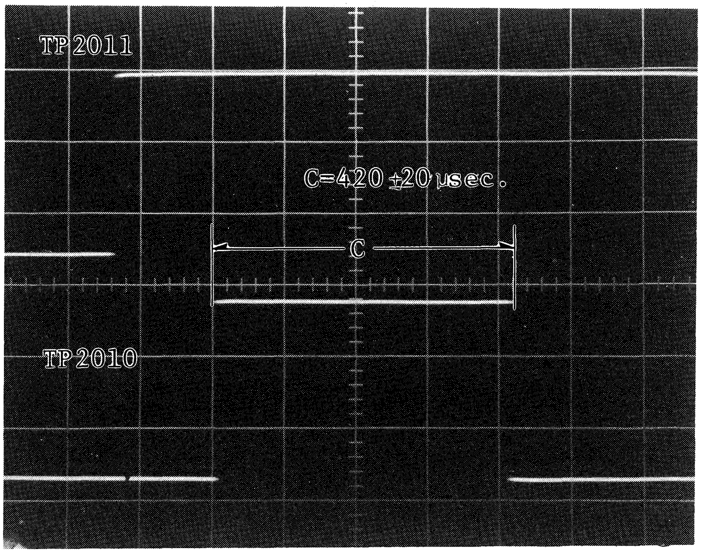


Fig. E10-(b) TP2011 2V/0.1msec.div.
TP2010 2V/0.1msec.div.

2-2-8. Artificial V-Sync Pulse Position Adjustment (CUR/REV Mode)

Test Points: TP2010, TP2011
Adjustment: R2078 (V SYNC 1)

1. Playback the alignment tape VFM8100H3D and place the deck to CUE or REV mode.
2. Connect the oscilloscope CH1 to TP2011 and CH2 to TP2010 both on the Servo P.C. Board Unit

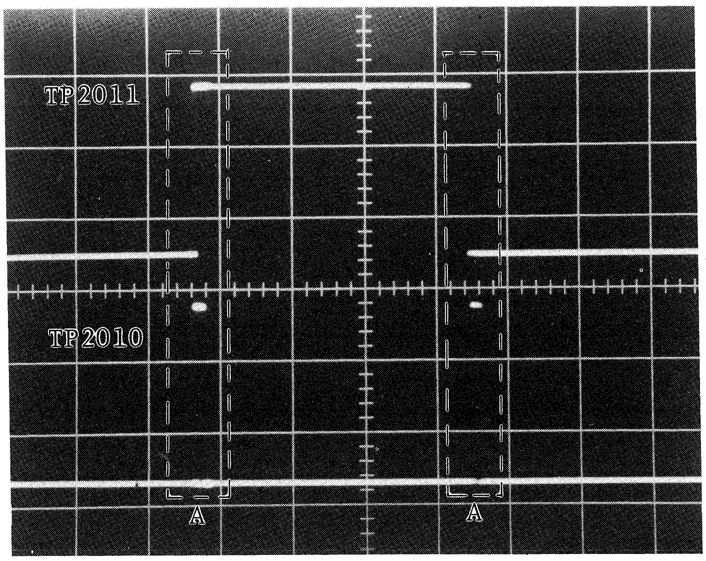


Fig. E11-(a) TP2011 2V/5msec.div.
TP2010 2V/5msec.div.

3. Set the scope to the Delay mode and expand the "A" portion.
4. Adjust R2078 (V SYNC 1) on the same board so that the pulse position "A" becomes 144 ± 25μsec.

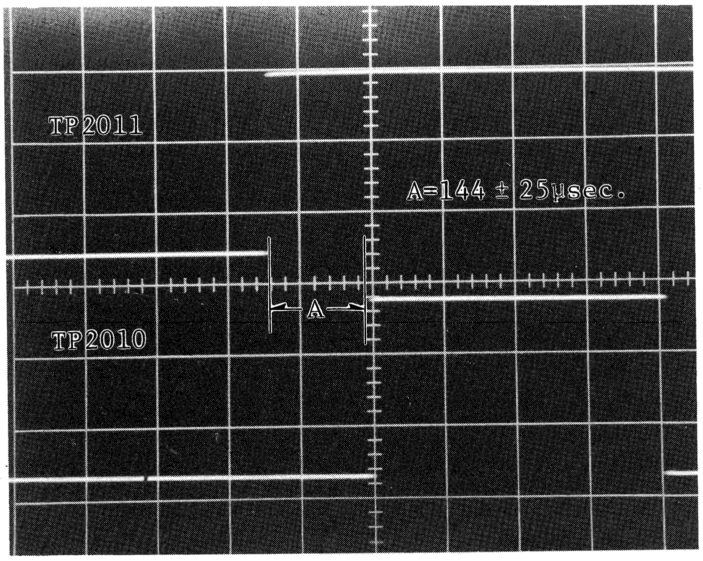


Fig. E11-(b) TP2011 2V/0.1msec.div.
TP2010 2V/0.1msec.div.

2-2-9. Artificial V-Sync Pulse Position Adjustment (PLAY/STILL Mode)

Test Points: TP2010, TP2011
Adjustment: R2076 (V SYNC 2)

1. Playback the alignment tape VFM8100H3D and place the deck to PLAY/STILL mode.
2. Connect the oscilloscope CH1 to TP2011 and CH2 to TP2010 both on the Servo P.C. Board Unit.

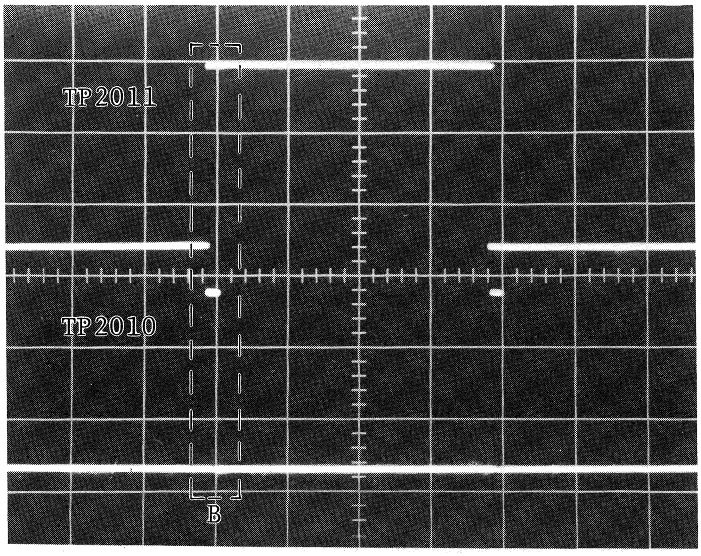


Fig. E12-(a) TP2011 2V/5msec.div.
TP2010 2V/5msec.div.

3. Set the scope to the Delay mode and expand the "B" portion.
4. Adjust R2076 (V SYNC 2) on the same board so that the pulse position "B" becomes 275 ± 25μsec.

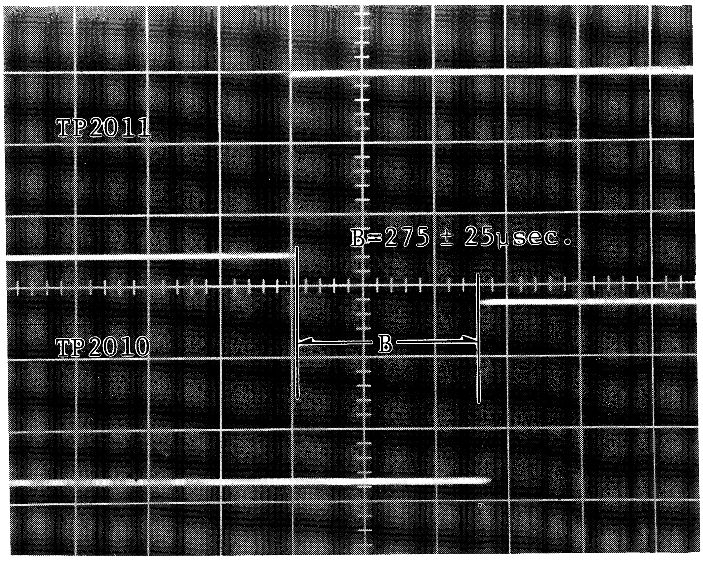


Fig. E12-(b) TP2011 2V/0.1msec.div.
TP2010 2V/0.1msec.div.

2-3. Luminance & Chrominance Section

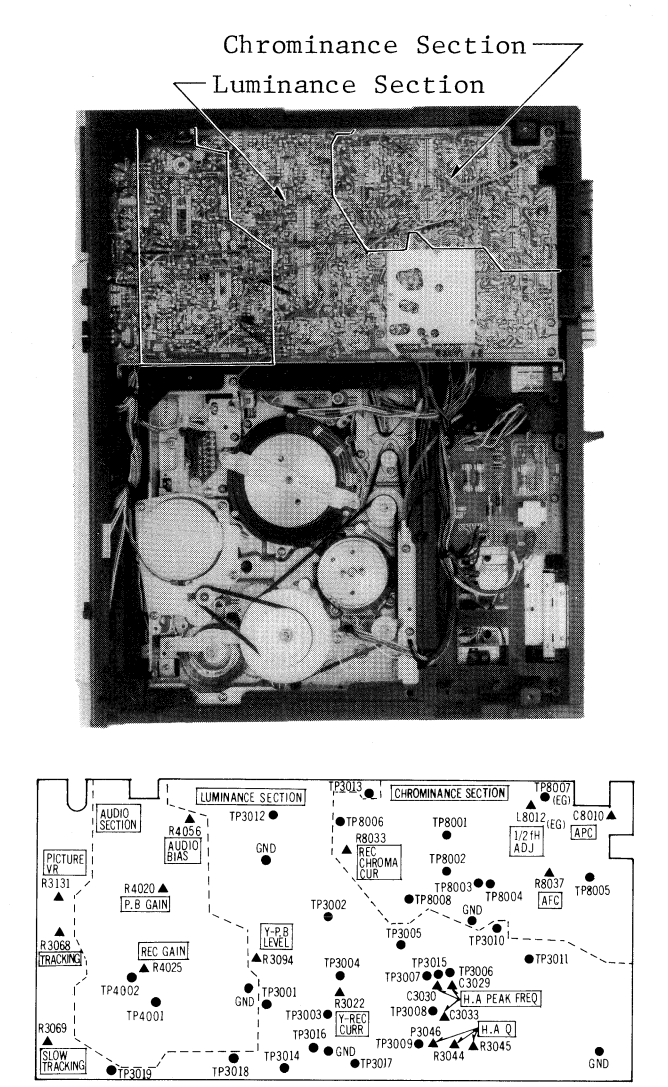

Chrominance Section
Luminance Section
LUMINANCE SECTION
AUDIO SECTION
PICTURE VR
R3131
R3068
TRACKING
R3069
SLOW TRACKING
R4056
AUDIO BIAS
R4020
P.B GAIN
REC GAIN
R4025
TP4002
TP4001
TP3019
TP3018
TP3012
GND
TP3002
Y-P.B LEVEL
R3094
TP3001
GND
TP3004
R3022
TP3003
Y-REC CURR
TP3016
GND
TP3014
TP3017
TP3013
CHROMINANCE SECTION
TP8006
R8033
REC CHROMA CUR
TP8001
TP8002
TP8003
TP8004
TP8008
GND
TP3005
TP3010
TP8007 (EG)
L8012 (EG)
1/2 fH ADJ
C8010
APC
R8037
AFC
TP8005
TP3011
TP3015
TP3007
TP3006
C3029
C3030
H.A PEAK FREQ
TP3008
C3033
P3046
TP3009
H.A Q
R3044
R3045
GND

Fig. E13 Luminance & Chrominance Section

2-3-1. AFC Frequency Adjustment

Test Point: TP8005
Adjustment: R8037 (AFC)

1. Disconnect the connector to the VIDEO INPUT on the front panel.
2. Connect the frequency counter to TP8005 on the Chrominance section.
3. Adjust R8037 (AFC) on the same section so that the indication of frequency counter becomes 15.625kHz ± 50Hz.
4. Supply colour bar signal to the VIDEO INPUT and confirm that the indication of frequency counter is 15.625kHz + 1Hz.

2-3-2. APC Frequency Adjustment

Test Point: TP8002
Adjustment: C8010 (APC)

1. Disconnect the connector to the VIDEO INPUT on the front panel.
2. Place the deck to REC.PLAY mode.
3. Connect the 2 jumper wires as follows (on the Chrominance Section, respectively).

   TP8003 ∿ GND
   TP8004 ∿ GND

4. Connect the frequency counter to TP8002 on the same section and adjust C8010 (APC) on the same section so that the indication of frequency counter becomes 4.433619MHz ± 50Hz.

2-3-3. Recording Current Adjustment

Test Points: TP3015, TP3007
Adjustments: R3022 (REC FM)
R8033 (REC CHROMA)

1. Supply colour bar signal to the VIDEO INPUT on the front panel.
2. Connect the oscilloscope between TP3015 (HOT) and TP3007 (GND) both on the Luminance section.
3. Place the deck to REC.PLAY mode and connect the jumper between TP3004 and GND both on the same section.
4. Adjust R8033 (REC CHROMA) on the Chrominance Section so that the amplitude becomes 28 ± 2mVp-p.

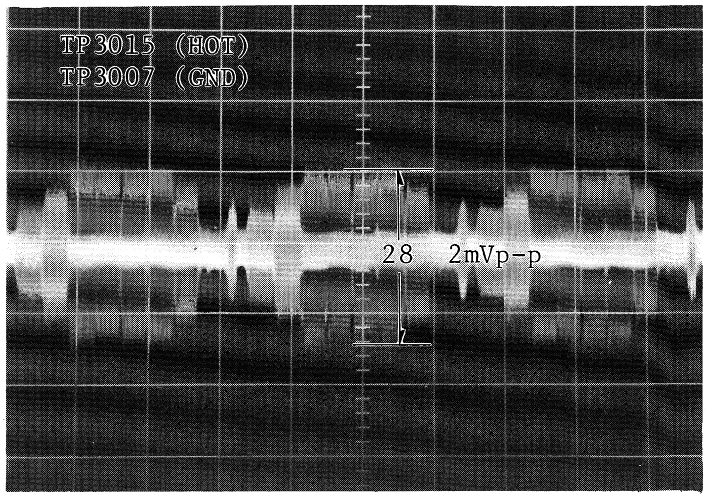


Fig. E14 10V/20μsec.div.

5. Remove the jumper wire and adjust R3022 (REC FM) on the Luminance Section so that the V-sync Tip portion of waveform becomes 150 ± 5mVp-p.

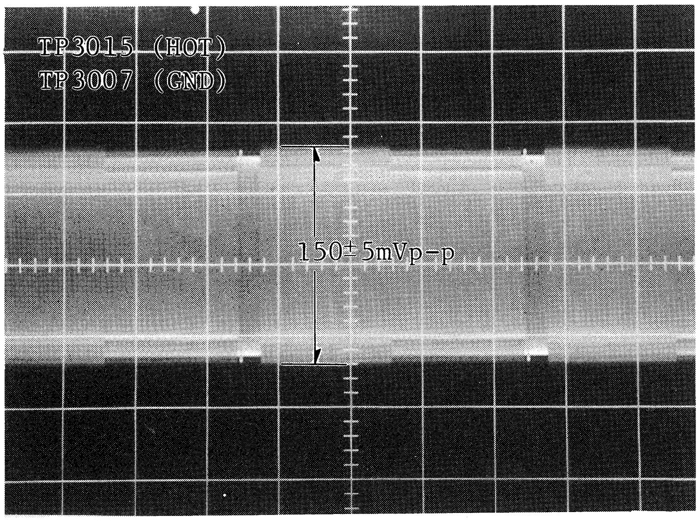


Fig. E15 50mV/5msec.div.

2-3-4. Head Amp Peak Frequency Adjustment

Test Point: TP3010
Adjustments: R3044 (Q-R), C3029 (PEAK-L')
R3045 (Q-L'), C3030 (PEAK-R)
R3046 (Q-L), C3033 (PEAK-L)

1. Set the sweep generator output to 200mVp-p at no load and insert the attenuator -3dB.
2. Put the marker to the sweep generator output at 2MHz and 4.9MHz.

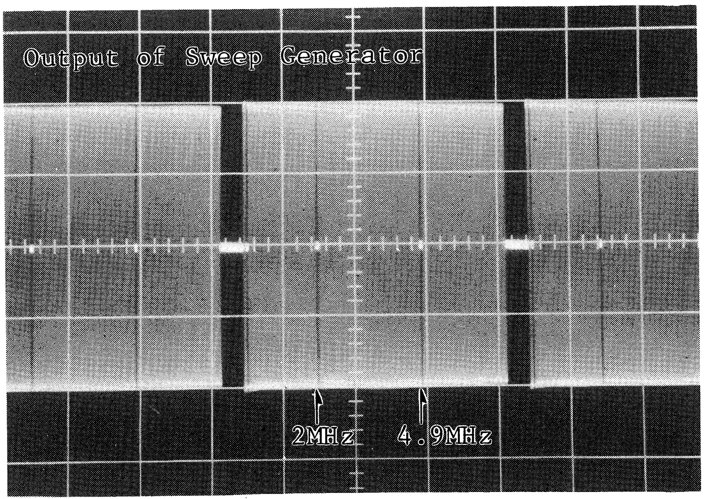


Fig. E16 50mV/5msec.div.

3. Connect the SYNC OUT on the Sweep Generator to the VIDEO INPUT on the front panel of the deck.
4. Supply sweep generator output to the TP3006 and TP3008 both on the Luminance Section through the resistor as shown below.

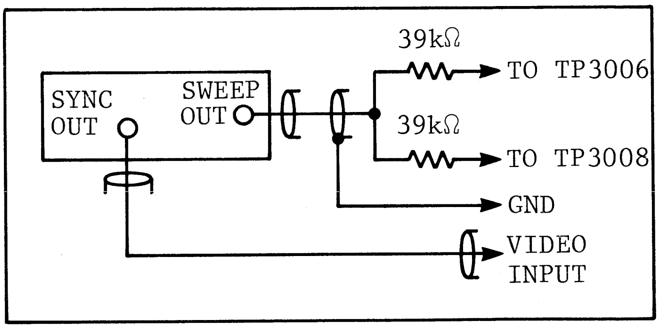


Fig. E17

5. Insert the blank tape and place the deck to PLAY mode. (blank tape: This tape must be not recorded any video signal.)
6. Connect the oscilloscopt to TP3010 on the Luminance Section.
7. Adjust R3044 (Q-R) and R3046 (Q-L) both on the same section so that the envelopes of both R CH and L CH becomes as shown below.

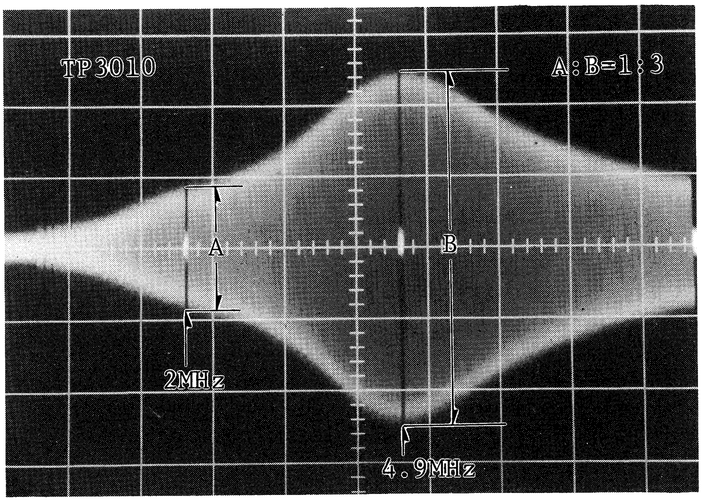


Fig. E18 0.2V/2msec.div.

8. Adjust C3030 (PEAK-R) and C3033 (PEAK-L) both on the same section so that the peak of both channels becomes 4.9MHz portions.

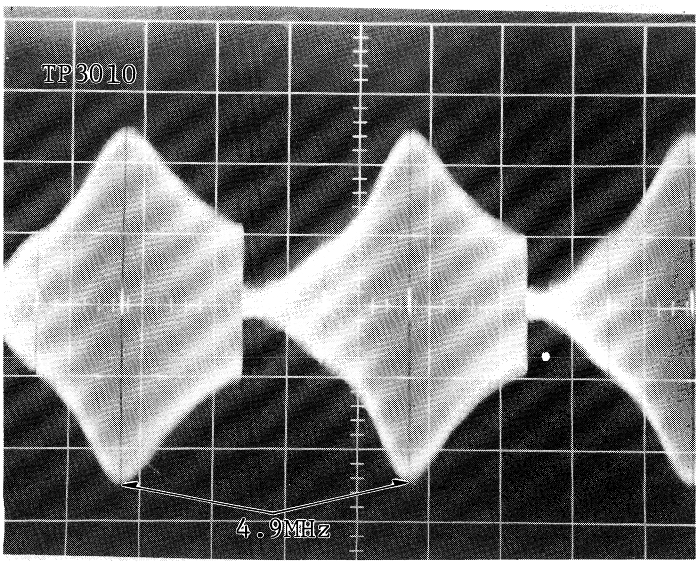


Fig. E19 0.2V/5msec.div.

9. Next, place the deck in PLAY/STILL mode.
10. Adjust R3045 (Q-L') on the same section so that the envelope becomes as shown below.

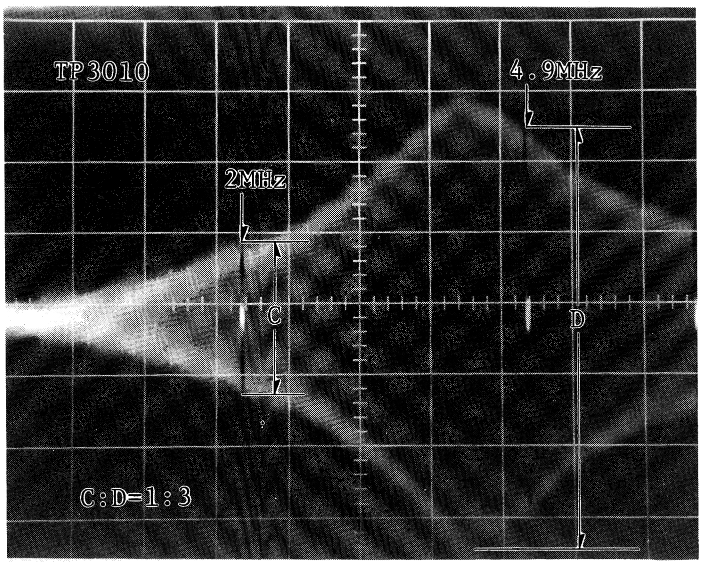


Fig. E20 0.2V/2msec.div.

11. Adjust C3029 (PEAK-R) on the same section so that the peak of waveform becomes 4.9MHz portion.

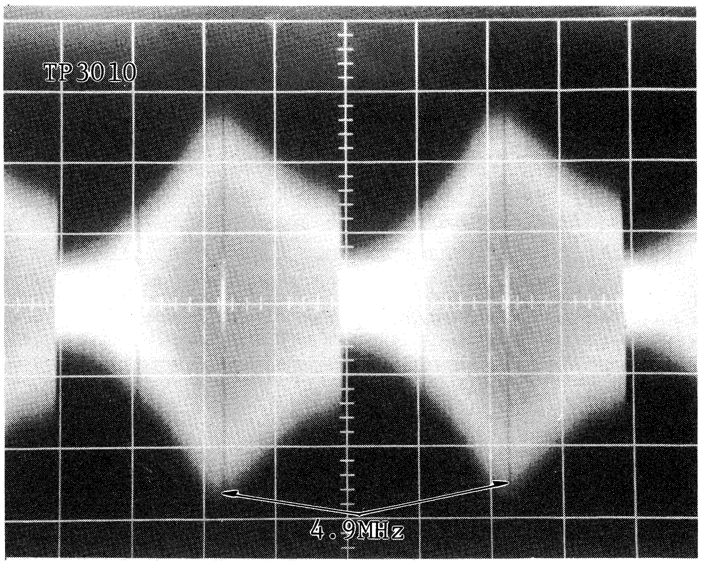


Fig. E21 0.2V/5msec.div.

2-3-5. Head Amp Frequency Response Adjustment

Test Point: TP3012
Adjustments: R3044 (Q-R)
R3045 (Q-L')
R3046 (Q-L)

1. Set the sweep generator output as shown below.
(Amplitude value of this waveform is terminated with 75Ω)

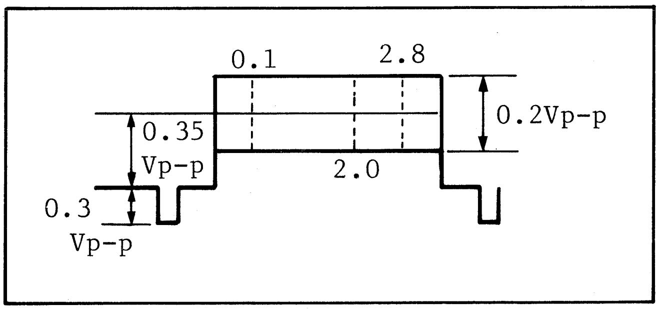


Fig. E22-(a)

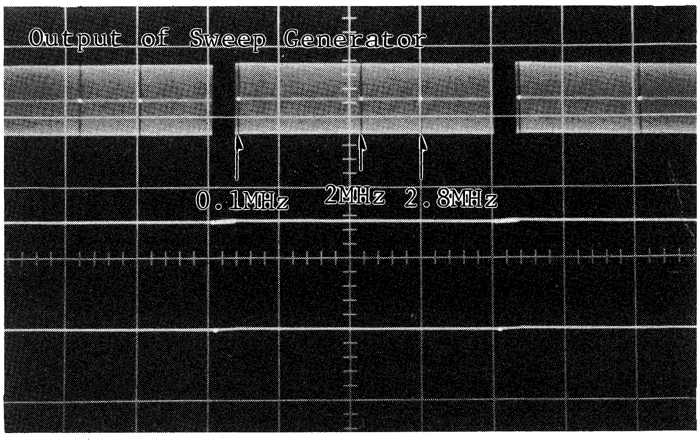


Fig. E22-(b) 0.2V/5msec.div.

2. Supply above signal to the VIDEO INPUT on the front panel and make a recording for a few minutes.
3. Connect the oscilloscope to TP3012 on the Luminance Section and Playback the just recorded portions.
4. Adjust R3044 (Q-R) and R3046 (Q-L) both on the same section so that the waveform of both R CH and L CH becomes as shown below.

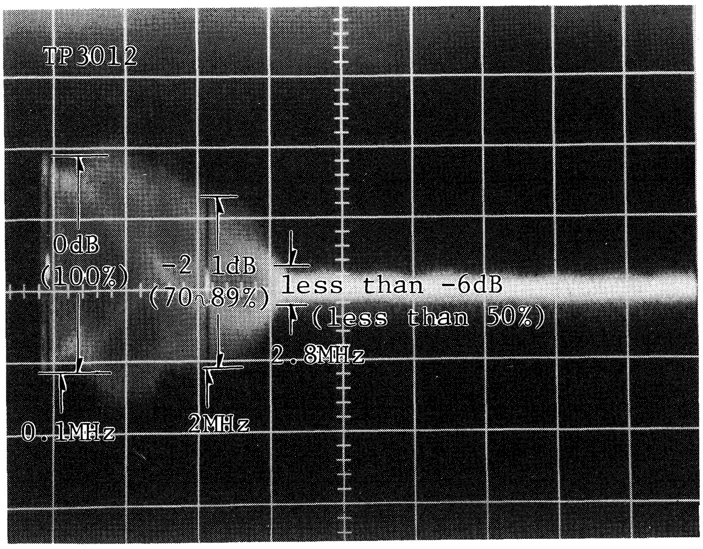


Fig. E23 0.1V/5msec.div.

5. Make sure that the 2.8MHz portions are less than -6dB.
6. Next, place the deck to PLAY/STILL mode.
7. Adjust R3045 (Q-L') on the same section so that the waveform becomes as shown below.

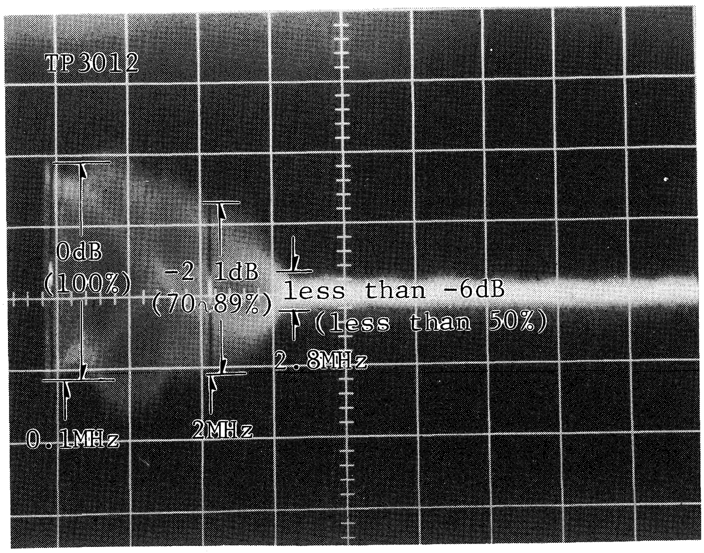


Fig. E24 0.1V/5msec.div.

8. Make sure that the 2.8MHz portion is less than -6dB.

2-3-6. Playback Level Adjustment

Test Point: TP3012
Adjustment: R3094 (PB LEVEL)

1. Supply colour bar signal to the VIDEO INPUT on the front panel.
2. Insert a cassette tape and make a recording for a few minutes.
3. Connect the oscilloscope to TP3012 on the Luminance Section.
4. Playback the just recorded portions and adjust R3094 (PB LEVEL) on the same section so that the video level becomes 2.0 ± 0.1Vp-p.

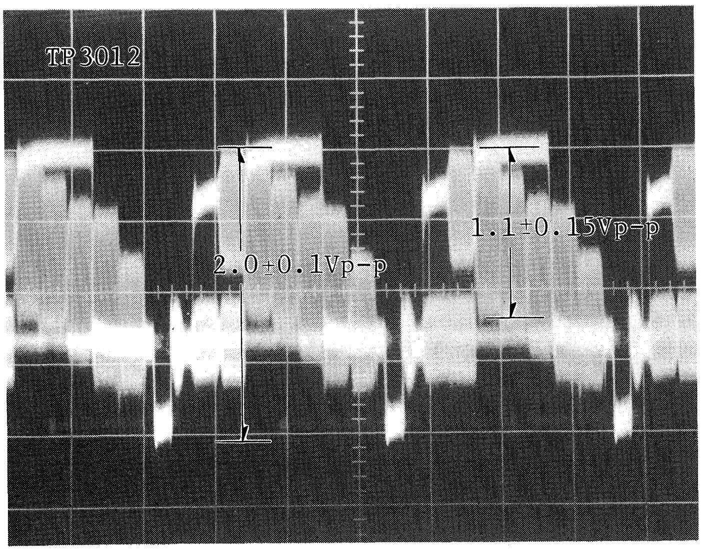


Fig. E25 0.5V/20μsec.div.

5. Confirm that the cyan level is 1.1 ± 0.15Vp-p.

2-3-7. SECAM Killer Adjustment

Test Point: TP8007
Adjustment: L8012 (SECAM KILL)

1. Supply SECAM colour bar signal to the VIDEO INPUT on the front panel.
2. Place the deck to REC.PLAY mode and connect the oscilloscope to TP8007 on the Chrominance Section.
3. Adjust L8012 (SECAM KILL) on the same section so that the peak of waveform becomes "A" point.

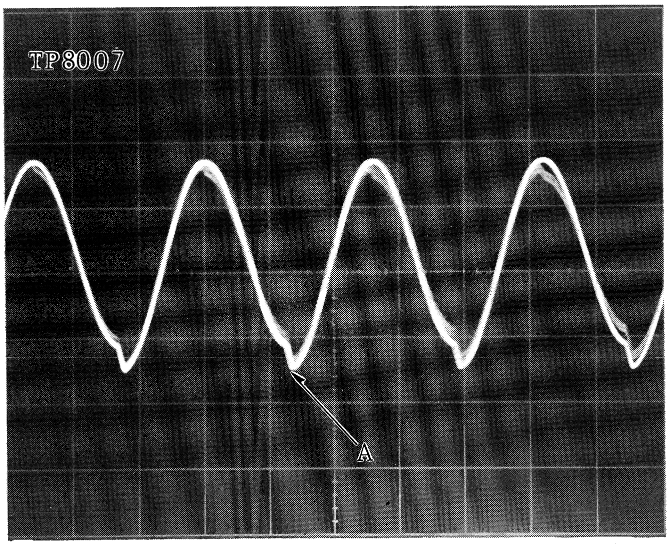


Fig. E26 2V/50μsec.div.

2-4. Audio Section

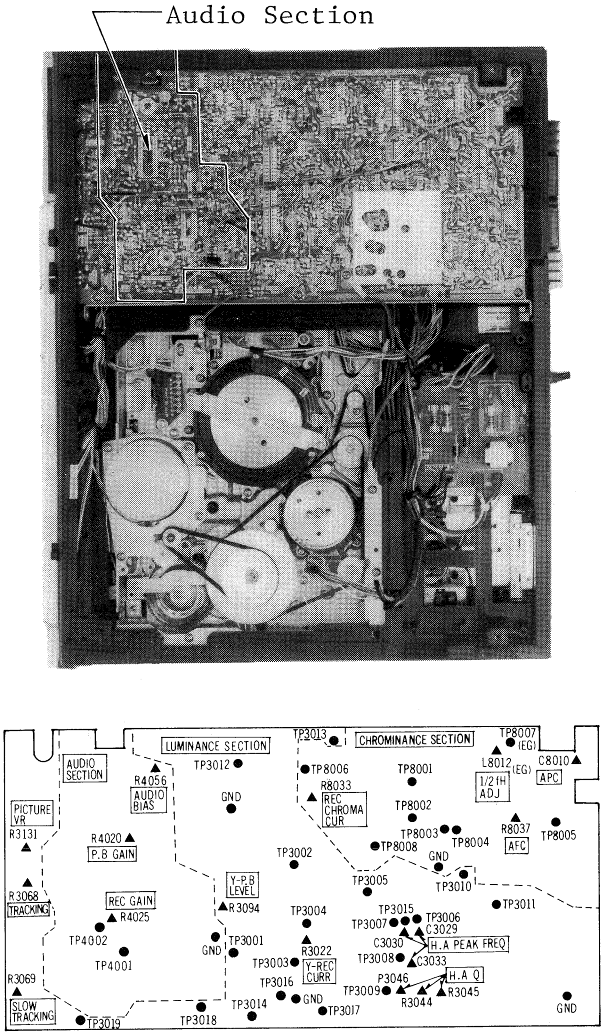

Audio Section
LUMINANCE SECTION
TP3013
CHROMINANCE SECTION
TP8007
(EG)
AUDIO SECTION
R4056
AUDIO BIAS
TP3012
TP8006
TP8001
L8012
(EG)
C8010
1/2 fH ADJ
APC
PICTURE VR
GND
R8033
REC CHROMA CUR
TP8002
R3131
R4020
P.B GAIN
TP8003
TP8004
R8037
TP8005
TP8008
AFC
GND
TP3002
Y-P.B LEVEL
TP3005
TP3010
R3068
TRACKING
REC GAIN
R4025
R3094
TP3004
TP3015
TP3006
TP3011
TP3007
C3029
TP4002
TP3001
C3030
H.A PEAK FREQ
GND
R3022
TP3008
C3033
TP4001
TP3003
Y-REC CURR
R3069
TP3016
P3046
H.A Q
TP3009
R3045
R3044
SLOW TRACKING
TP3014
GND
TP3017
GND
TP3019
TP3018

Fig. E27 Audio Section

2-4-1. Audio Bias Current Adjustment

Test Point: Audio Head 2P Connector
Adjustment: R4056 (AUDIO BIAS)

1. Do not supply any audio signal to the AUDIO INPUT on the front panel.
2. Place the deck to REC.PLAY mode and connect the DVM between Audio Head 2 Pin Connector on the A/C Head P.C. Board.

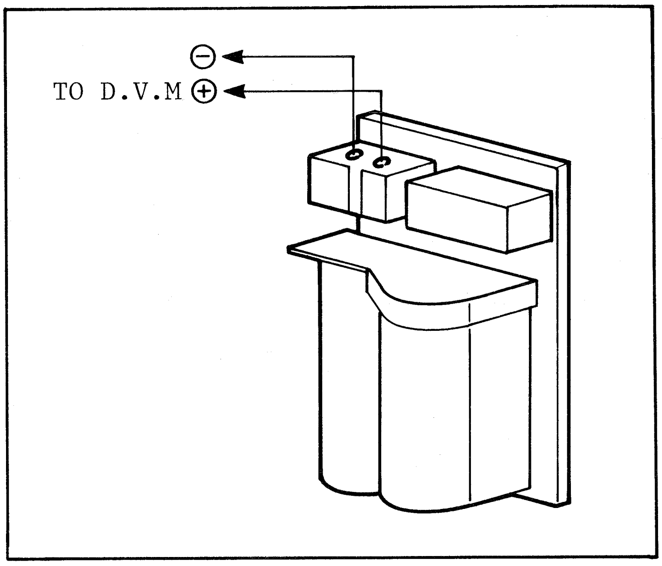


Fig. E28 A/C Head

3. Adjust R4056 (AUDIO BIAS) on the Audio Section so that the indication of DVM becomes 4.1 ± 0.1mVrms.
4. Place the deck to AUDIO-DUB mode and make sure that the indication of DVM is 4.1 +0.4, -0.1mVrms.

2-4-2. Audio Playback Gain Adjustment

Test Point: TP4001
Adjustment: R4020 (PB GAIN)

Note:
When this adjustment is doing, Tape Interchangeability Adjustment is complete.

1. Playback the alignment tape VFM8100H3D and connect the oscilloscope to TP4001 on the Audio Section.
2. Turn the NR switch to off.

3. Adjust R4020 (PB GAIN) on the same section so that the 6kHz signal becomes 320 ± 20mVp-p.

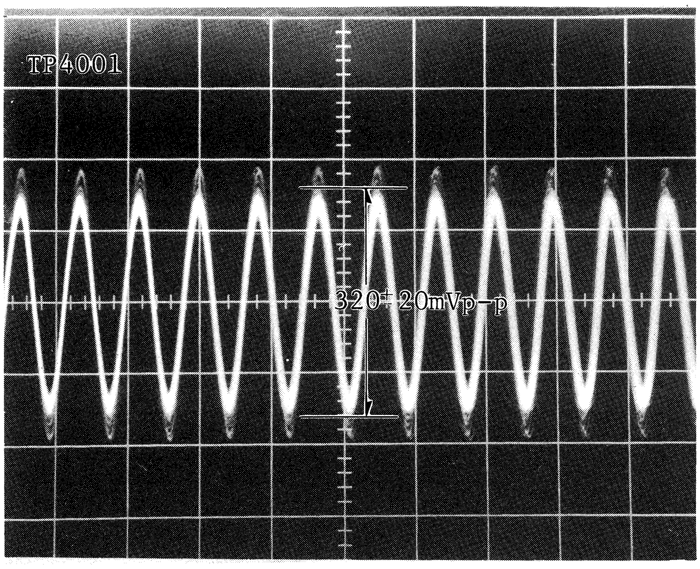


Fig. E29 0.1V/0.2msec.div.

2-4-3. Audio Recording Gain Adjustment

Test Point: TP4001
Adjustment: R4025 (REC GAIN)

Note:
When this adjustment is doing, Audio Playback Gain Adjustment is complete.

Specification: Playback Level $= \text{Recording Level}\ ^{+56}_{-50}\,\text{mVrms}$.

1. Turn the NR switch to off.
2. Supply sinewave signal (1kHz, -10dB) to the AUDIO INPUT and colour bar signal to the VIDEO INPUT both on the front panel.
3. Insert a cassette tape and make a recording for a few minutes.
4. Connect the oscilloscope to TP4001 on the Audio Section and memorize the recording level.
5. Playback the just recorded portions, and compared with recording level and playback level.
6. If this difference is out of spec., then turn the R4025 (REC GAIN) on the same section and repeat this adjustment to meet spec.

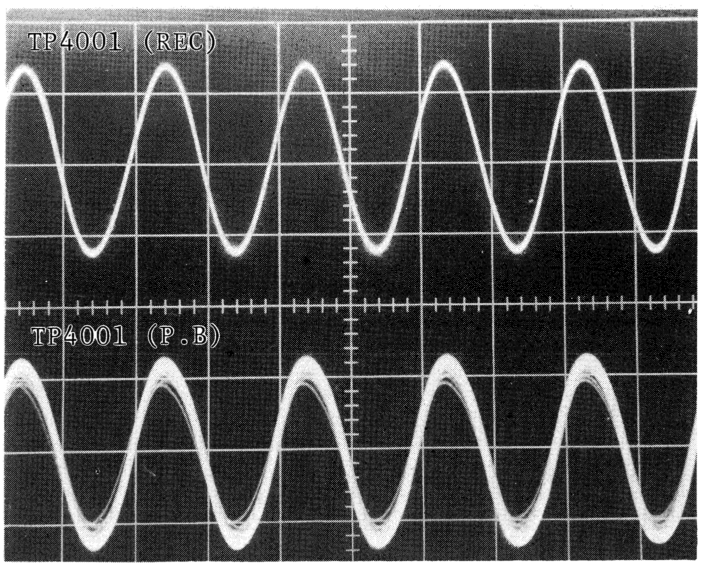


Fig. E30 0.5V/0.5msec.div.

2-5. Programmable Timer Section

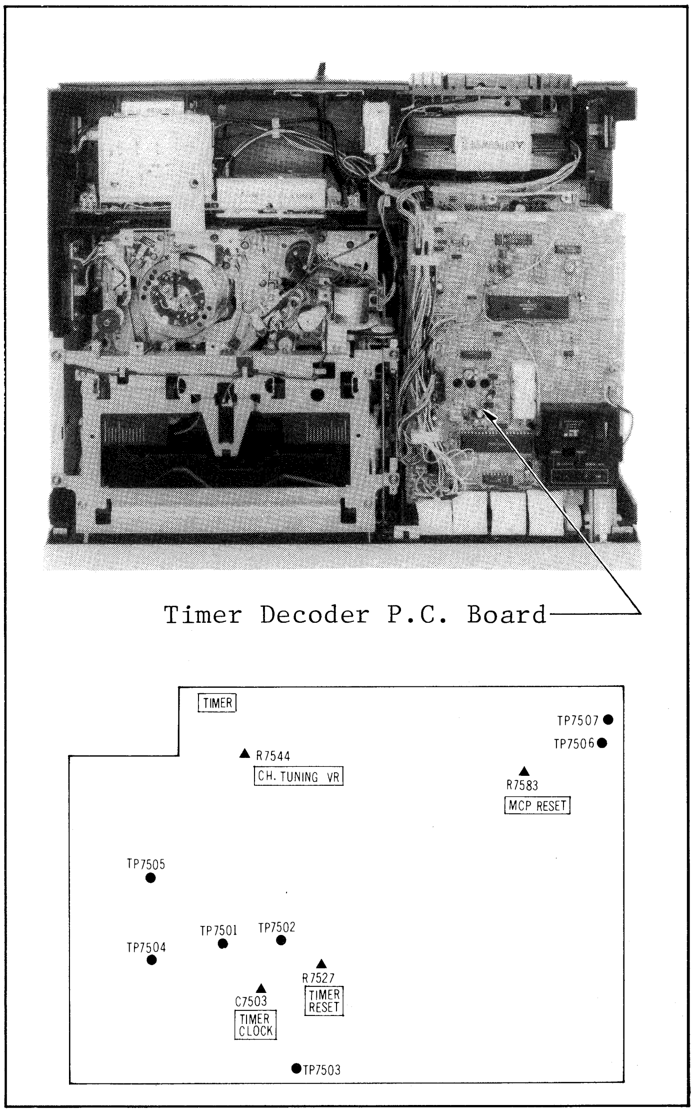

Timer Decoder P.C. Board
TIMER
TP7507
TP7506
R7544
CH. TUNING VR
R7583
MCP RESET
TP7505
TP7501
TP7502
TP7504
R7527
TIMER RESET
C7503
TIMER CLOCK
TP7503

Fig. E31 Timer Section

2-5-1. Timer Clock Adjustment

Test Point: TP7501
Adjustment: C7503 (TIMER CLOCK)

1. Connect the frequency counter to TP7501 on the Programmable Timer PC Board Unit.
2. Adjust C7503 (TIMER CLOCK) on the same board so that the indication of frequency counter becomes 128 ± 0.1 Hz.

2-5-2. Timer Microprocessor Reset Voltage Adjustment

Test Point: IC7505-12
Adjustment: R7583 (MCP RESET)

1. Connect the oscilloscope to pin 12 of IC7505 on the Programmable Timer P.C. Board Unit.
2. Turn R7583 (MCP RESET) on the same board fully counter clockwise and adjust same resistor so that the output of pin 12 is "Low" to "High" transition.

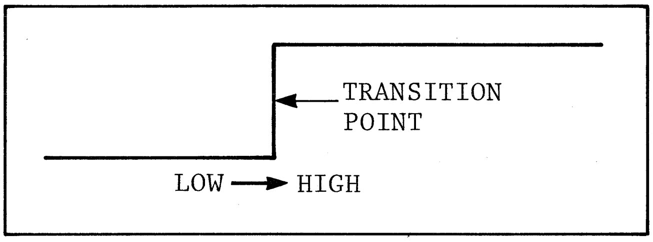


Fig. E32

2-5-3. Timer Reset Voltage Adjustment

Test Point: IC7501-22
Adjustment: R7527 (TIMER RESET)

1. Connect the oscilloscope to pin 22 of IC7501 on the Programmable Timer P.C. Board Unit.
2. Turn R7527 (TIMER RESET) on the same board fully counter clockwise and adjust same resistor so that the output of pin 22 is "Low" to "High" transition.

2-6. Infrared Receiver Section

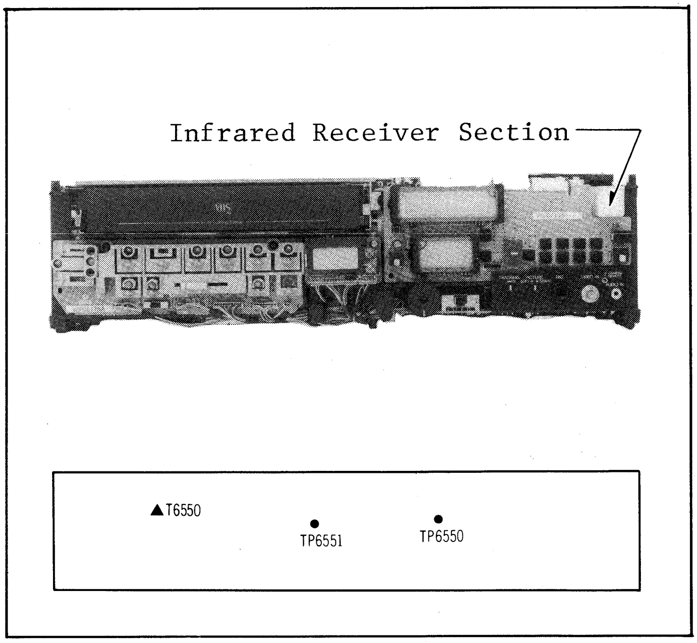


Fig. E33 Infrared Receiver Section

2-6-1. Infrared Tuning Frequency Adjustment

Test Point: TP6551
Adjustment: T6550

1. Place the deck in Stop mode.
2. Connect the oscilloscope to TP6551 on the Infrared Receiver P.C. Board Unit.
3. Adjust T6550 on the same section so that the output level at TP6551 becomes maximum while STOP Key of the Infrared Remote Control Unit is being pressed.

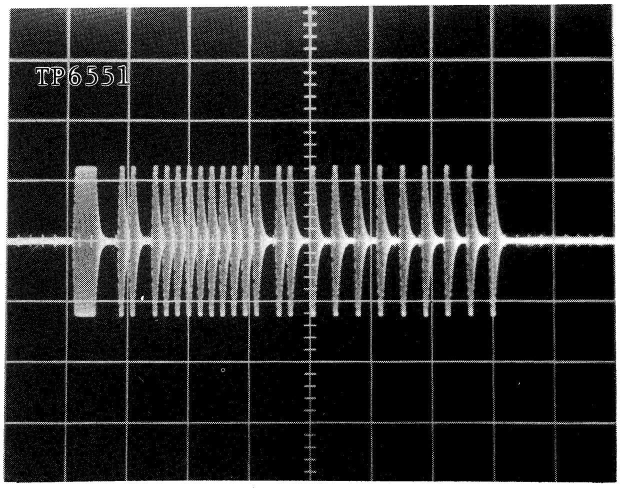


Fig. E34 0.5V/10msec.div.

2-7. TV DEMODULATOR SECTION

Model No: NV-777E/EG

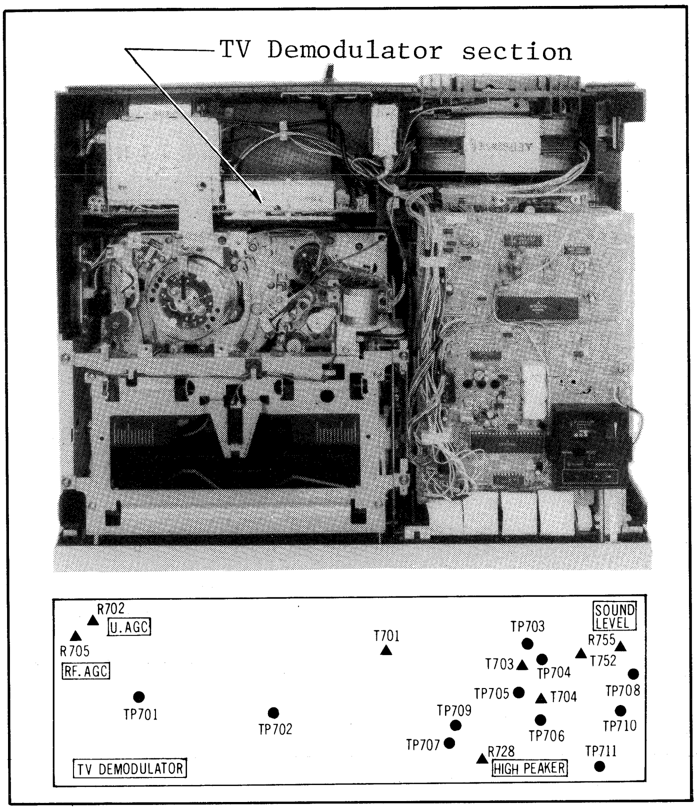

TV Demodulator section
R702
U.AGC
R705
RF.AGC
TP701
TP702
T701
TP703
SOUND LEVEL
R755
T752
T703
TP704
TP705
T704
TP708
TP709
TP706
TP710
TP707
R728
HIGH PEAKER
TP711
TV DEMODULATOR

Fig. E35

This section provides complete electrical adjustment procedures which may be required for TV demodulator circuit.

Test Equipment

To make adjustments completely, following equipments are required.

1. VIF Sweep Generator with the Trap Adjustor 38.9MHz
2. SIF Sweep Generator .... 5.5MHz ± 150kHz
3. CW Oscillator ..... 38.9MHz ± 100kHz
4. Digital Volt Meter
5. Oscilloscope
6. DC Power Supply
7. Monitor Scope

2-7-1. VIF Sweep Adjustment

1. Connect the H-Out of the VIF Sweep Generator to the H-In of the monitor scope.
2. Connect the Marker-Out of the VIF Sweep Generator to the Marker-In or Z-Terminal of the monitor scope.
3. Set the Channel Selector to the VHF High position (VH) and turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V DC.
4. Connect the jumper wire between TP701 (RF AGC) and ground.
5. Connect the 100Ω resistor between TP704 and TP705.
6. Connect the monitor scope to TP707.
7. Supply the output of the VIF Sweep Generator to Test Point of the Tuner.

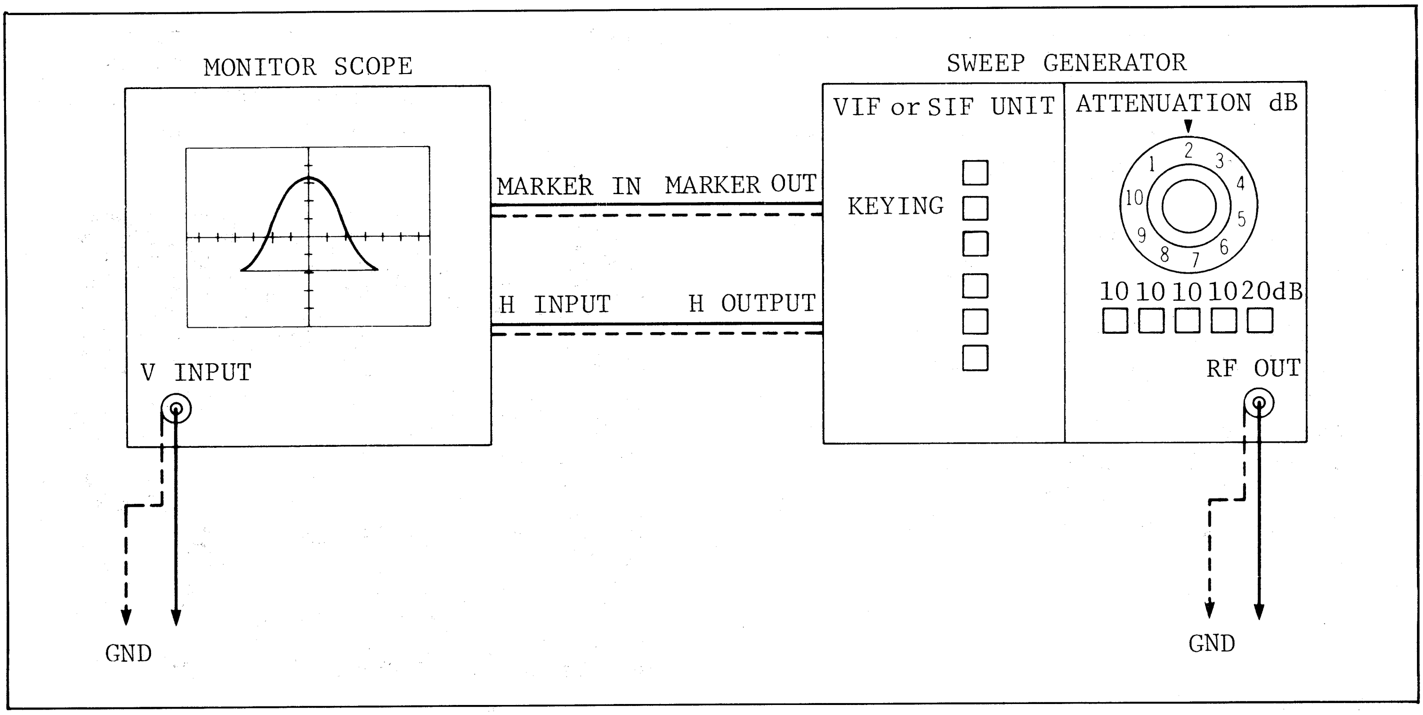

MONITOR SCOPE
SWEEP GENERATOR
VIF or SIF UNIT
ATTENUATION dB
MARKER IN
MARKER OUT
KEYING
1
2
3
4
5
6
7
8
9
10
10 10 10 10 20dB
H INPUT
H OUTPUT
V INPUT
RF OUT
GND
GND

Fig. E36 Connection of Measuring Equipment

8. Adjust the output of the VIF Sweep Generator so that the level of VIF waveform becomes 1.0Vp-p.
9. Release 20dB from the attenuator of the Sweep Generator.
10. Set the DC Power Supply at TP709, and supply the Voltage so that the level of VIF waveform becomes 1.0Vp-p.
11. Adjust T702 so that the attenuation of the 33.4MHz trap becomes minimum.
12. Adjust T701 (a) so that the attenuation of the 40.4MHz trap becomes minimum.
13. Adjust the Tuner Converter Coil, IF AMP Coil T700 and HLB Transformer T701 so that the sweep output waveform becomes as follows.

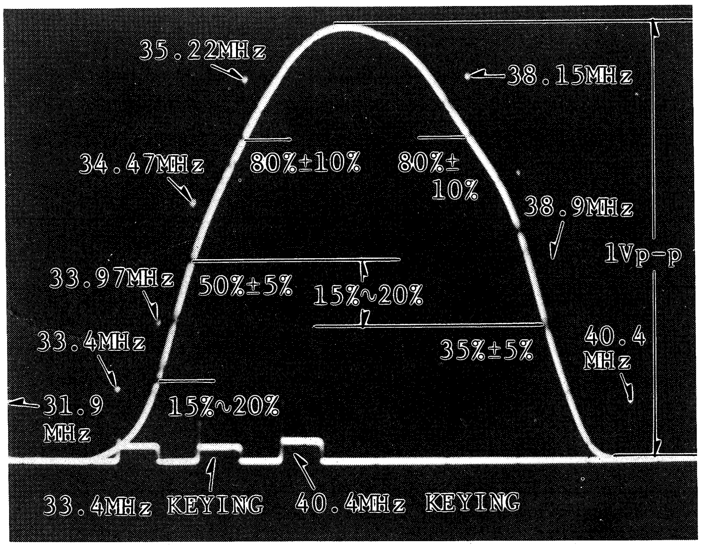
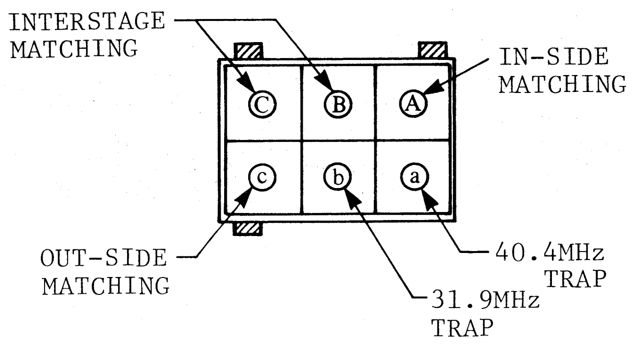


Fig. E37 VIF Waveform



* B coil for Interstage Matching is preset, so the adjustment is not required normally.

Fig. E38 HLB Transformer T701

2-7-2. Selective Coil Adjustment

1. Connection of measuring equipments is the same as in the VIF Sweep Adjustment.
2. Connect the output of the VIF Sweep Generator to TP703.
3. Connect the monitor scope to TP707.
4. Supply the DC Voltage (6.0 ∿ 6.5V) to TP709 so that the noise level on the sweep waveform becomes minimum.
5. Turn T704 2 turns clockwise or counterclockwise.
6. Adjust the output of the VIF Sweep Generator so that the sweep wave becomes 2Vp-p.
7. Adjust T703 so that the marker position at 38.9MHz is the peak of the wave as shown below.

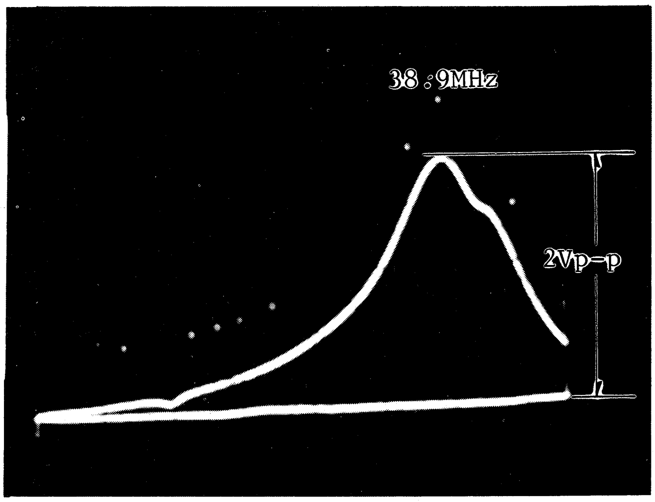


FIG. E39

8. After above adjustment, adjust T704 so that the marker position at 38.9MHz is as shown below.

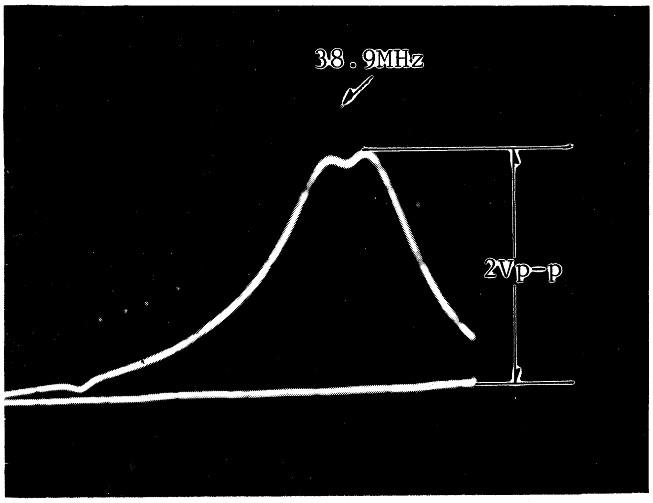


Fig. E40

2-7-3. SIF Sweep Adjustment

1. Connect the H-Out of the SIF Sweep Generator to the H-In of the monitor scope.
2. Connect the Marker-Out of the SIF Sweep Generator to the Marker-In or Z-terminal of the monitor scope.
3. Connect the oscilloscope to the output of the SIF Sweep Generator and set the sweep output to 700mVp-p.
4. Connect the output of the SIF Sweep Generator to TP706.
5. Connect the monitor scope to TP710.
6. Turn R755 fully clockwise.
7. Adjust T752 so that the attenuation of 5.5MHz trap becomes minimum.
8. Adjust T751 for maximum peak-to-peak amplitude of response "S" curve as shown below.

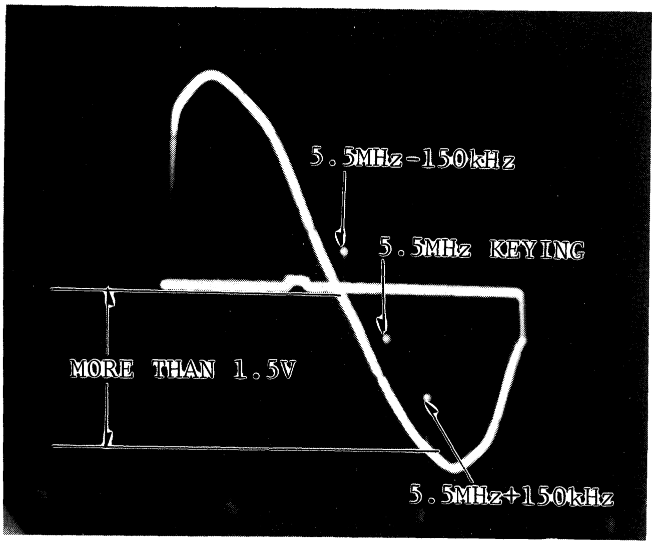


Fig. E41 SIF Waneform

9. Confirm that the level between the 150kHz marker position is more than 1.5Vp-p.

2-7-4. AFC Adjustment

1. Set the CW oscillator so that the 38.9MHz CW signal becomes 1Vp-p.
2. Supply this signal to the Tuner Test Point.
3. Set the channel Selector to the VHF High Position (VH) and turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V.
4. Connect the Digital Voltmeter to the Tuner AFC terminal TP702.
5. Confirm the reading "A" of the Digital Voltmeter is between 6.4V and 6.8V, when the AFC switch is off.
6. Set the AFC switch is "ON".
7. Adjust T704 so that the level at the Tuner AFC terminal TP702 becomes "A" ± 0.3V.
8. Change the frequency of the CW oscillator ±100kHz, centered at 38.9MHz and confirm that the difference of the AFC voltage is more than ±3V.

2-7-5. Confirmation of Video Level and Adjustment of Burst Level

1. Supply the PAL Standard Colour Bar signal to RF In terminal and tune this signal and set the AFC SW.
2. Connect the oscilloscope to TP711.
3. Confirm that the video level at TP711 is 1.0 ± 0.2Vp-p.
4. Adjust resistor R728 so that the burst level becomes 240 ± 10mVp-p as shown below.

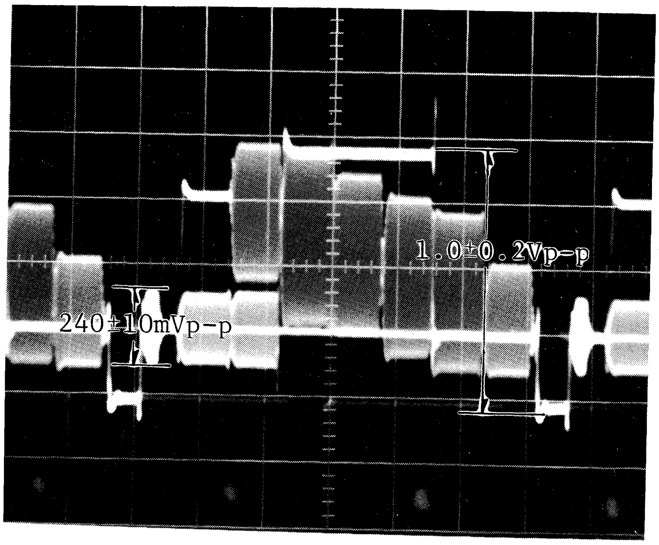


Fig. E42

2-8. TV DEMODULATOR SECTION

Model No: NV-777B

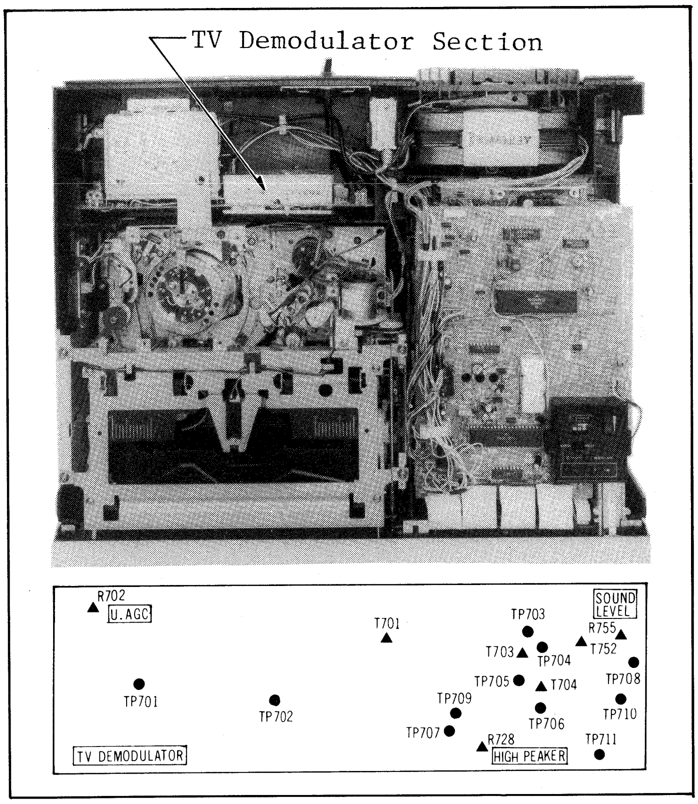

TV Demodulator Section
R702
U.AGC
T701
TP703
SOUND LEVEL
R755
T703
TP704
T752
TP701
TP702
TP705
T704
TP708
TP709
TP706
TP710
TP707
R728
HIGH PEAKER
TP711
TV DEMODULATOR

Fig. E43

This section provides complete electrical adjustment procedures which may be required for TV demodulator circuit.

Test Equipment

To make adjustments completely, following equipments are required.

1. VIF Sweep Generator with the Trap Adjustor 39.5MHz
2. SIF Sweep Generator .... 6.0MHz ± 150kHz
3. CW Oscillator ..... 39.5MHz ± 100kHz
4. Digital Volt Meter
5. Oscilloscope
6. DC Power Supply
7. Monitor Scope

2-8-1. VIF Sweep Adjustment

1. Connect the H-Out of the VIF Sweep Generator to the H-In of the Monitor scope.
2. Connect the Marker-Out of the VIF Sweep Generator to the Marker-In or Z-terminal of the monitor scope.
3. Turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V DC.
4. Connect the jumper wire between TP701 (RF AGC) and ground.
5. Connect the 100Ω resistor between TP704 and TP705.
6. Connect the monitor scope to TP707.
7. Supply the output of the VIF Sweep Generator to Test Point of the Tuner.

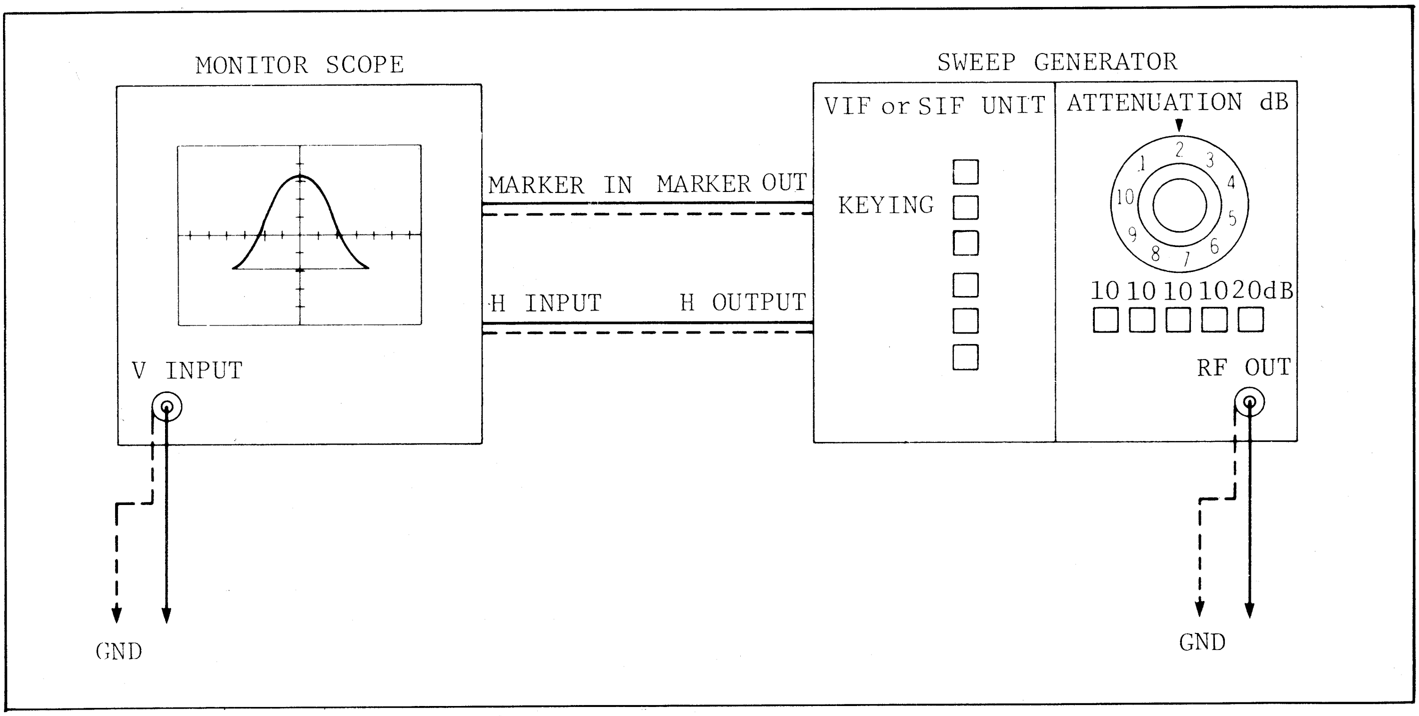

MONITOR SCOPE
SWEEP GENERATOR
VIF or SIF UNIT
ATTENUATION dB
1
2
3
4
5
6
7
8
9
10
MARKER IN
MARKER OUT
KEYING
H INPUT
H OUTPUT
10 10 10 10 20dB
V INPUT
RF OUT
GND
GND

Fig. E44 Connection of Measuring Equipment

8. Adjust the output of the VIF Sweep Generator so that the level of VIF waveform becomes 1.0Vp-p.
9. Release 20dB from the attenuator of the Sweep Generator.
10. Set the DC Power Supply at TP709, and supply the Voltage so that the level of VIF waveform becomes 1.0Vp-p.
11. Adjust T702 so that the attenuation of the 33.5MHz trap becomes minimum.
12. Adjust T701 (a) so that the attenuation of the 41.5MHz trap becomes minimum.
13. Adjust the Tuner Converter Coil, IF AMP Coil T700 and HLB Transformer T701 so that the sweep output waveform becomes as follows.

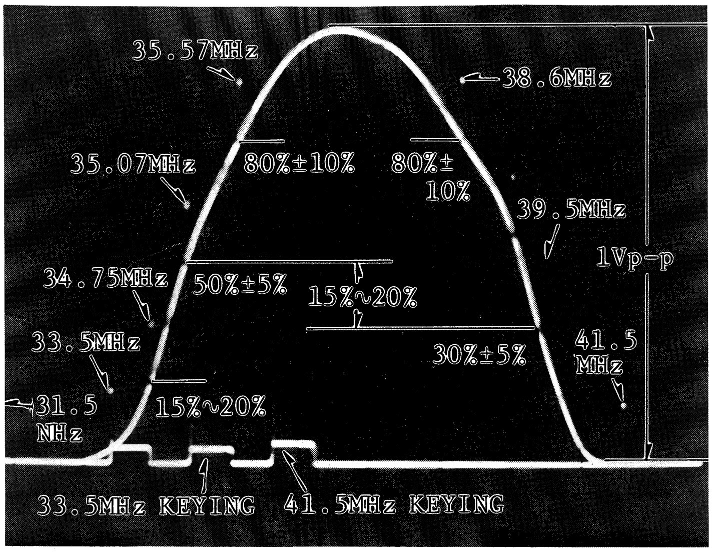
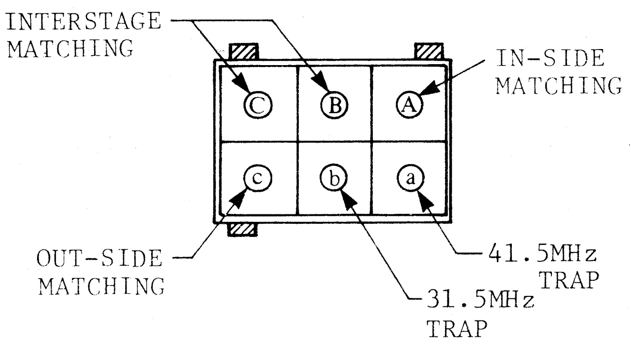


Fig. E45 VIF Waveform



* B coil for Interstage Matching is preset, so the adjustment is not required normally.

Fig. E46 HLB Transformer T701

2-8-2. Selective Coil Adjustment

1. Connection of measure equipments is the same as in the VIF Sweep Adjustment.
2. Connect the output of the VIF Sweep Generator to TP703.
3. Connect the monitor scope to TP707.
4. Supply the DC Voltage (6.0 ∿ 6.5V) to TP709 so that the noise level on the sweep waveform becomes minimum.
5. Turn T704 2 turns clockwise or counterclockwise.
6. Adjust the output of the VIF Sweep Generator so that the sweep wave becomes 2Vp-p.
7. Adjust T703 so that the marker position at 39.5MHz is the peak of the wave as shown below.

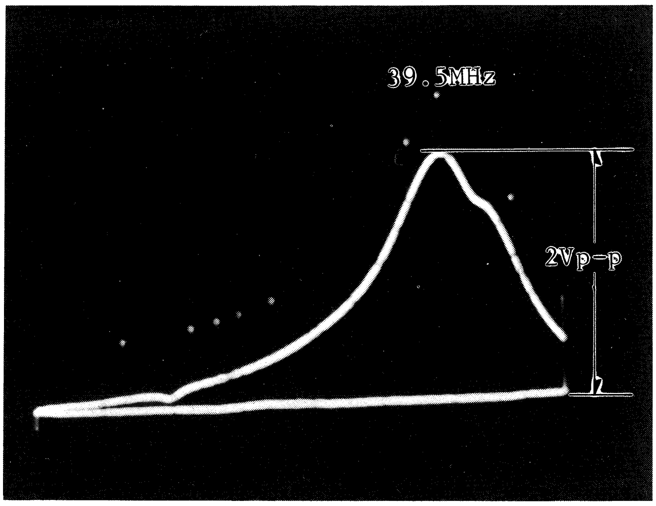


Fig. E47

8. After above adjustment, adjust T704 so that the marker position at 39.5MHz is as shown below.

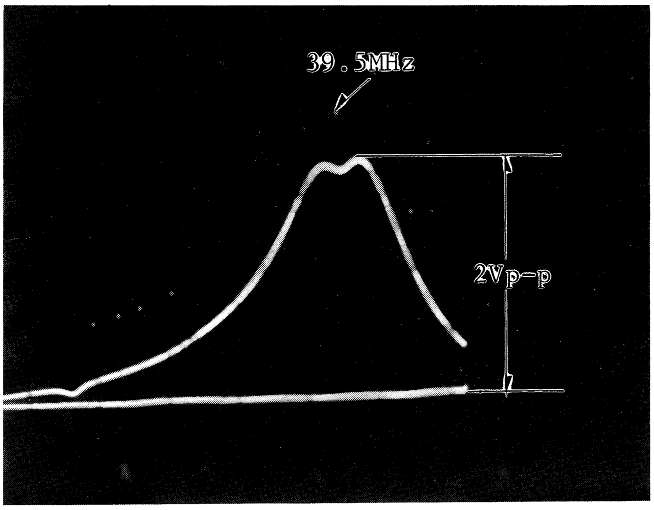


Fig. E48

2-8-3. SIF Sweep ADjustment

1. Connect the H-Out of the SIF Sweep Generator to the H-In of the monitor scope.
2. Connect the Marker-Out of the SIF Sweep Generator to the Marker-In or Z-Terminal of the monitor scope.
3. Connect the oscilloscope to the output of the SIF Sweep Generator and set the sweep output to 700mVp-p.
4. Connect the output of the SIF Sweep Generator to TP706.
5. Connect the monitor scope to TP710.
6. Turn R755 fully clockwise.
7. Adjust T752 so that the attenuation of 6.0MHz trap becomes minimum.
8. Adjust T751 for maximum peak-to-peak amplitude of response "S" curve as shown below.

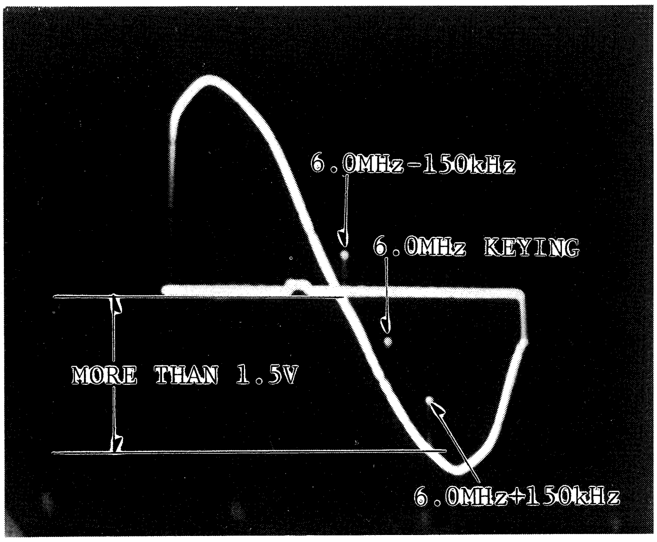


Fig. E49 SIF Wave form

9. Confirm that the level between the 150kHz marker position is more than 1.5Vp-p.

2-8-4. AFC Adjustment

1. Set the CW oscillator so that the 39.5MHz CW signal becomes 1Vp-p.
2. Supply this signal to the Tuner Test Point.
3. Turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V.
4. Connect the Digital Voltmerter to the Tuner AFC terminal TP702.
5. Confirm the reading "A" of the Digital Voltmeter is between 6.4V and 6.8V, when the AFC switch is off.
6. Set the AFC switch is "ON".
7. Adjust T704 so that the level at the Tuner AFC terminal TP702 becomes "A" ± 0.3V.
8. Change the frequency of the CW oscillator ±100kHz, centered at 39.5MHz and confirm that the difference of the AFC voltage is more than ±3V.

2-8-5. Confirmation of Video Level and Adjustment of Burst Level

1. Supply the PAL Standard Colour Bar signal to RF In terminal and tune this signal and set the AFC SW.
2. Connect the oscilloscope to TP711.
3. Confirm that the video level at TP711 is 1.0 ± 0.2Vp-p.
4. Adjust resistor R728 so that the burst level becomes 240 ± 10mVp-p as shown below.

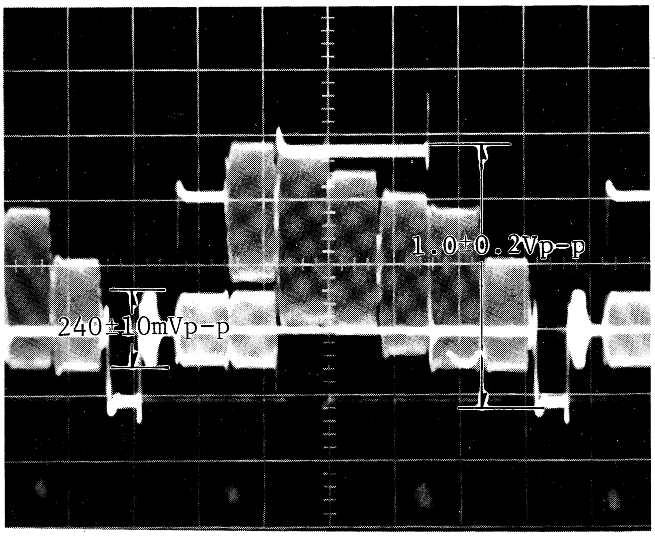


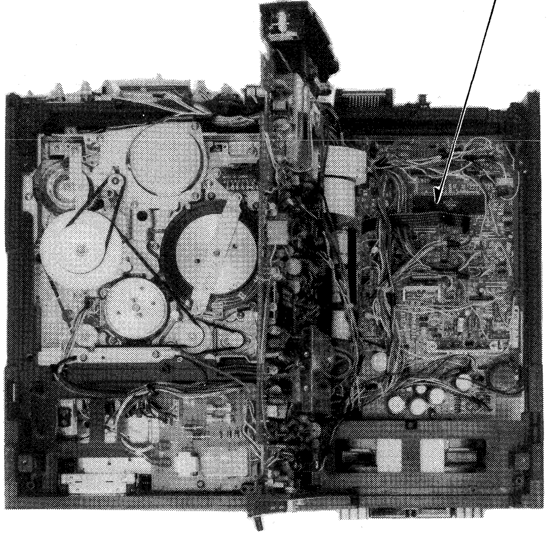
Fig. E50

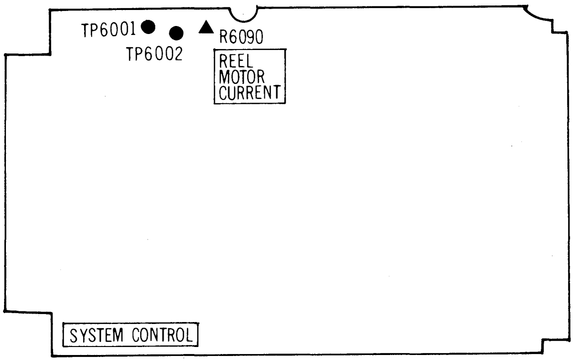
Note (NV-777-B only):

Not to operate the protection circuit of radar disturbance and to operate the antenna booster always, please connect a jumper wire between P703-1 and P703-3.

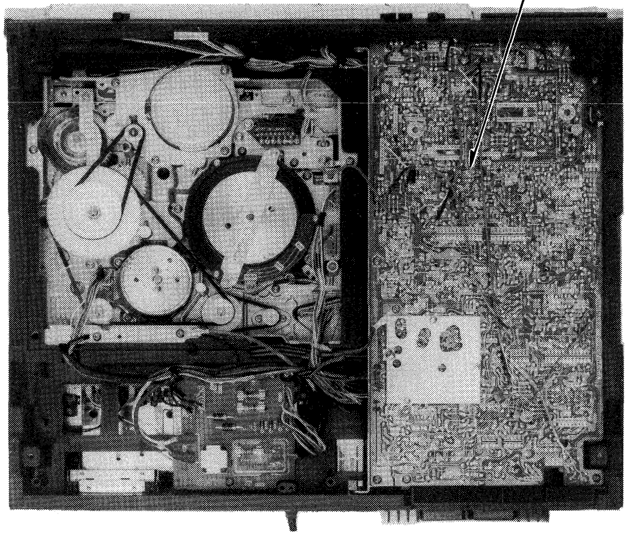
LOCATION OF TEST POINTS & CONTROLS

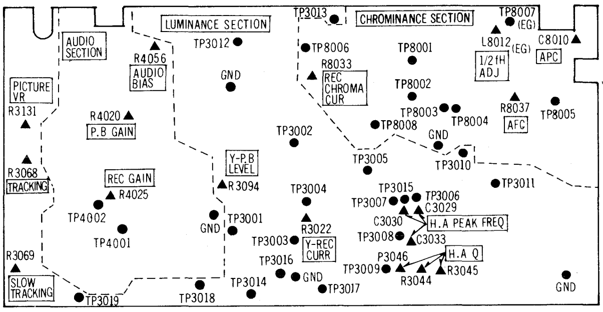
POWER SUPPLY & SYSTEM CONTROL P.C.B UNIT (VEP06179A)


Power Supply & System Control P.C.B. Unit

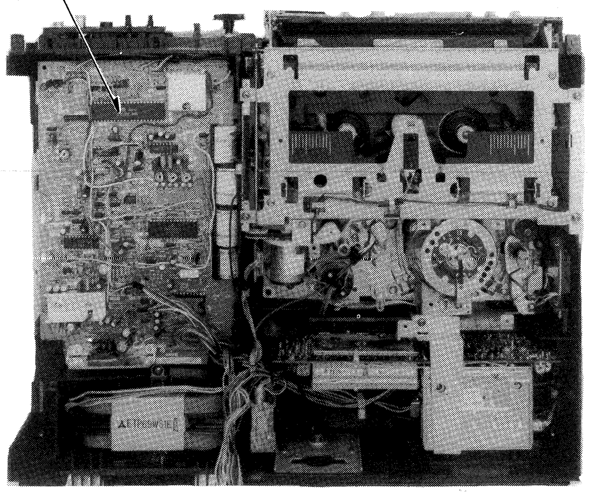

TP6001
TP6002
R6090
REEL MOTOR CURRENT
SYSTEM CONTROL

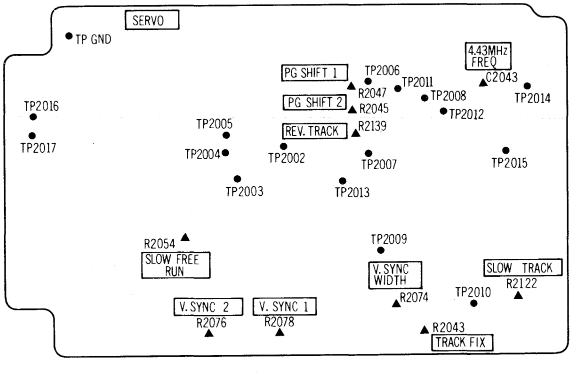
LUMINANCE , CHROMINANCE & AUDIO P.C.B UNIT (VEP03150A/B)


Luminance, Chrominance & Audio P.C.B. Unit

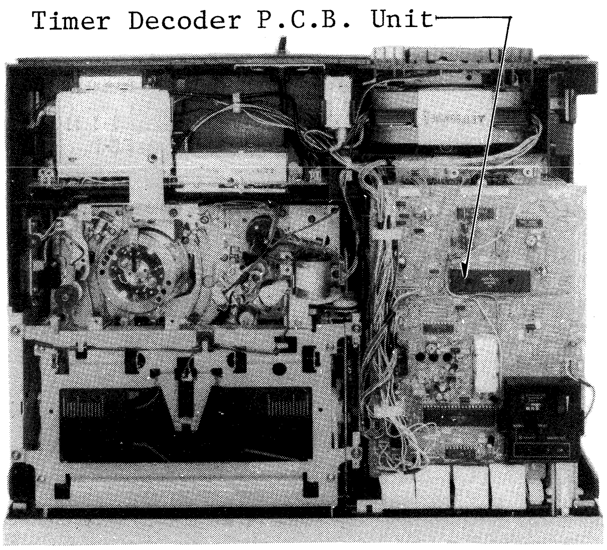

AUDIO SECTION
LUMINANCE SECTION
TP3013
CHROMINANCE SECTION
TP8007 (EG)
PICTURE VR
R3131
R4056
AUDIO BIAS
TP3012
GND
TP8006
R8033
REC CHROMA CUR
TP8001
L8012 (EG)
1/2 fH ADJ
C8010
APC
TP8002
R4020
P.B GAIN
TP3002
TP8003
TP8008
TP8004
R8037
AFC
TP8005
GND
R3068
TRACKING
REC GAIN
R4025
Y-P.B LEVEL
R3094
TP3005
TP3010
TP3004
TP3011
TP4002
TP4001
GND
TP3001
R3022
TP3015
TP3007
TP3006
C3029
C3030
H.A PEAK FREQ
TP3003
Y-REC CURR
TP3008
C3033
R3069
SLOW TRACKING
TP3016
P3046
H.A Q
TP3009
R3044
R3045
TP3014
GND
TP3017
TP3019
TP3018
GND

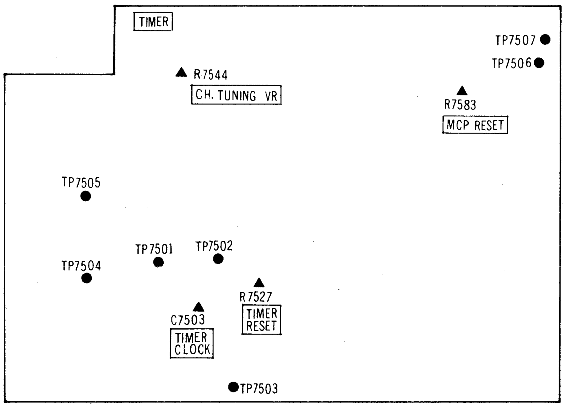
SERVO P.C.B UNIT (VEP02155A)


Servo P.C.B. Unit

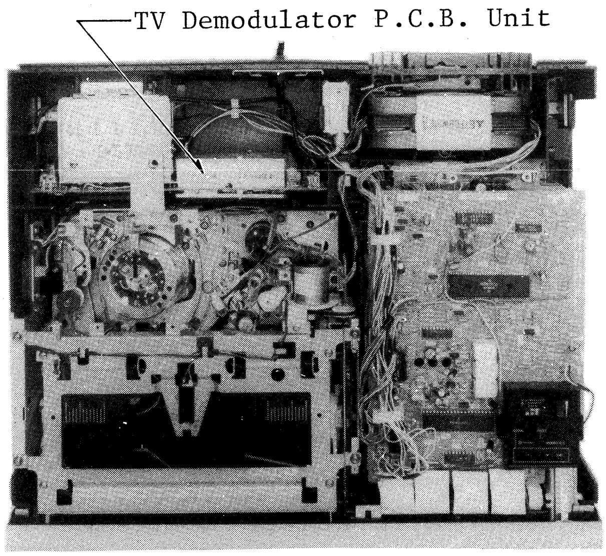

SERVO
TP GND
4.43MHz FREQ
PG SHIFT 1
TP2006
TP2011
C2043
TP2014
R2047
TP2008
TP2016
PG SHIFT 2
R2045
TP2012
TP2005
REV. TRACK
R2139
TP2017
TP2004
TP2002
TP2007
TP2015
TP2003
TP2013
R2054
SLOW FREE RUN
TP2009
V. SYNC WIDTH
SLOW TRACK
R2122
R2074
TP2010
V. SYNC 2
R2076
V. SYNC 1
R2078
R2043
TRACK FIX

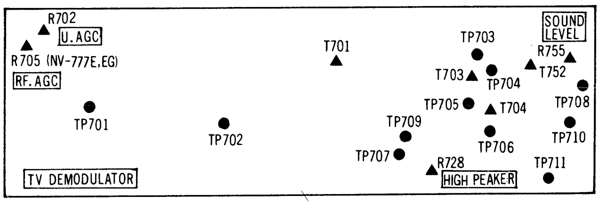
TIMER DECODER P.C.B UNIT
(VEP07147A/B)


Timer Decoder P.C.B. Unit

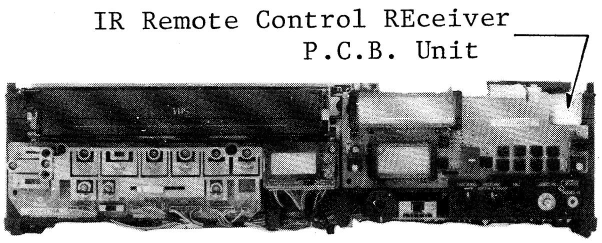

TIMER
TP7507
TP7506
R7544
CH. TUNING VR
R7583
MCP RESET
TP7505
TP7501
TP7502
TP7504
R7527
TIMER RESET
C7503
TIMER CLOCK
TP7503

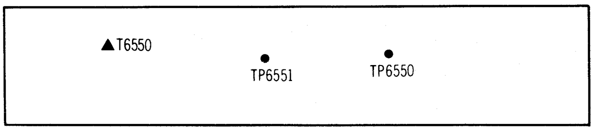
TV DEMODURATOR P.C.B UNIT
(VEP07149A/B)


TV Demodulator P.C.B. Unit


R702
U.AGC
R705 (NV-777E,EG)
RF.AGC
T701
TP703
SOUND LEVEL
R755
T752
T703
TP704
TP708
TP705
T704
TP701
TP702
TP709
TP710
TP706
TP707
R728
HIGH PEAKER
TP711
TV DEMODULATOR

INFRARED REMOTE CONTROL RECEIVER P.C.B UNIT (VEP06178A)


IR Remote Control REceiver
P.C.B. Unit


T6550
TP6551
TP6550

ORDER NO. VRD-8207-110

Service Manual

Video Cassette Recorder

Vol. 3

Panasonic VHS

NV-777-E -EG -B

Block Diagrams
Schematic Diagrams

SPECIFICATIONS

Power Source: 220V AC 50/60Hz (NV-777-E, EG)
240V AC 50/60Hz (NV-777B)
Power Consumption: Approx. 38 watts
Television System: CCIR: 625 lines, 50 fields
PAL colour signal (NV-777-E/-B)
CCIR: 625 lines, 50 fields
PAL/SECAM (DDR) colour signal
(NV-777-EG)
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Colour signal: converted subscarrier phase shift recording
Audio Track: 1 track
Tape Format: Tape width 12.7mm high density tape
Tape Speed: 23.39mm/s
Record/Playback Time: 240 min. with NV-E240
FF/REW Time: Less than 4.5 min. with NV-E180
Heads: Video: 3 rotary heads
1 pair for normal recording and playback (R-L Head)
1 pair for trick play (L-L′ Head) (field still and slow)
Audio/Control: 1 stationary head
Erase: 1 full track erase

Input Level: Video: VIDEO IN connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE IN jack
More than −20dB, 50kΩ
Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE OUT jack
−6dB, less than 1kΩ
RF Modulated: UHF channel 36 ± 4CH
73dBμ ± 4dBμ 75Ω terminated
Weight: 10.4kg
Dimensions: 430(W) × 115(H) × 372(D)mm
Accessory Supplied: 1 pc. DIN-RF Cable VJA0130
1 pc. Video Cassette Tape (NV-777-E/-B)
1 pc. Wireless Remote Controller, NV-A17-E
Optional Accessories: Video cassette tape:
NV-E240 Approx. 344m, 240 min.
NV-E180 Approx. 258m, 180 min.
NV-E120 Approx. 174m, 120 min.
NV-E60 Approx. 88m, 60 min.
Video Camera, WV-2600E,
WV-3000E, WV-3200E

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

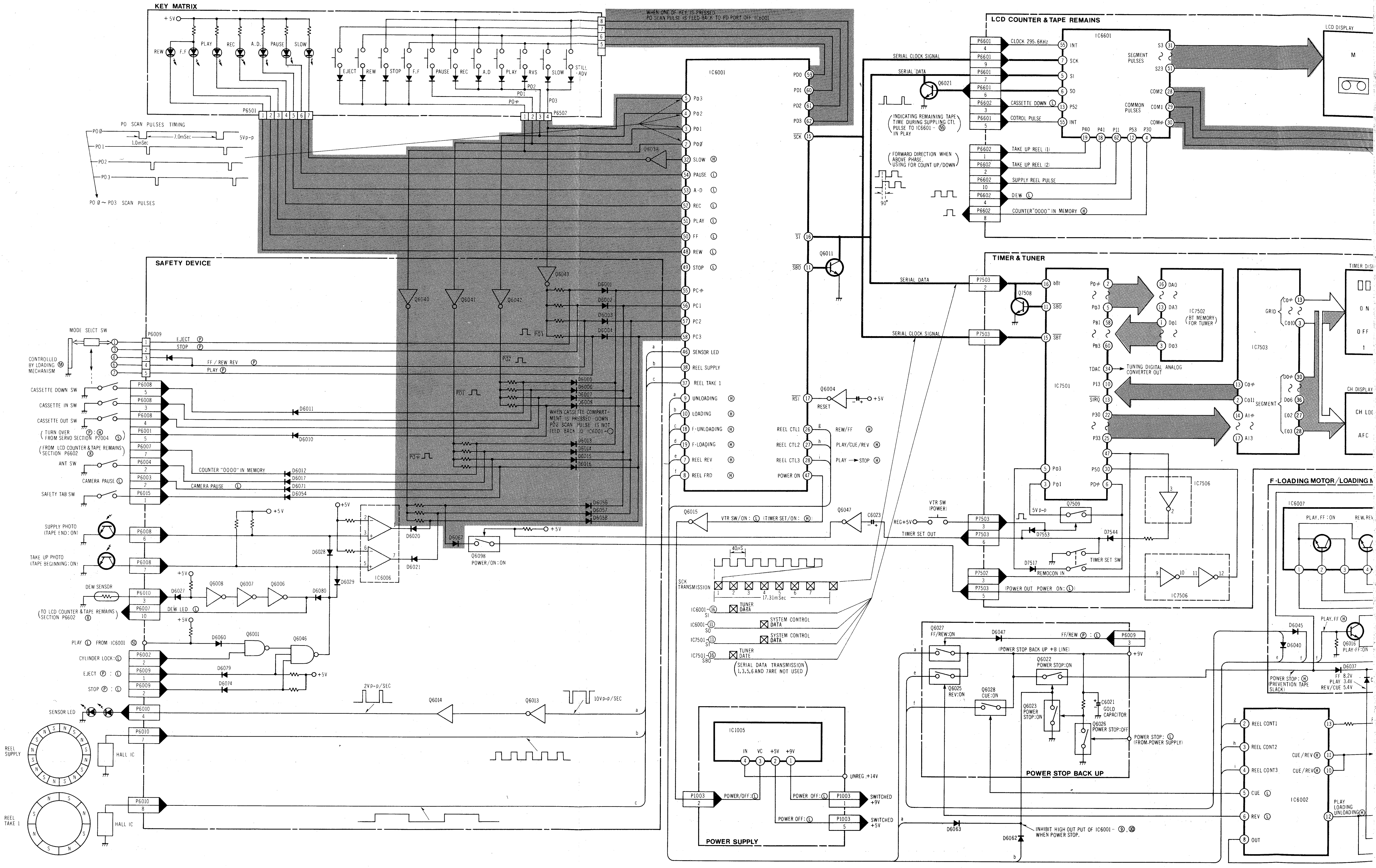
Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

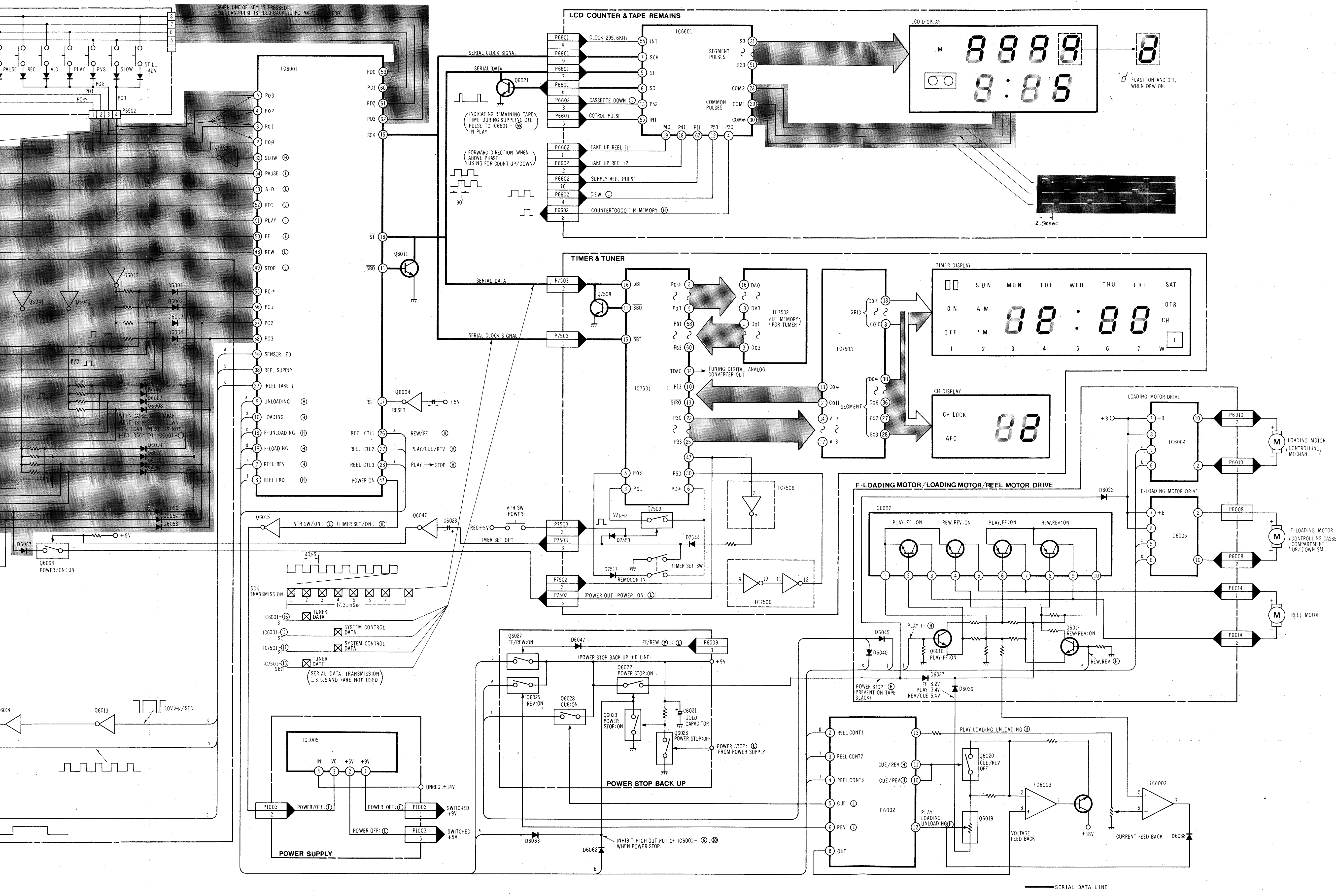
CONTENTS

SPECIFICATIONS .... Cover
BLOCK DIAGRAM 3-1
  SYSTEM CONTROL 3-1
  PROGRAMMABLE TIMER 3-2
  SERVO 3-3
  LUMINANCE PROCESS 3-4
  CHROMINANCE PROCESS 3-5
  TV DEMODULATOR & SYNTHESIZER TUNER(NV-777E,EG) 3-6
  TV DEMODULATOR & SYNTHESIZER TUNER(NV-777B) 3-7
  INFRARED TRANSMITTER 3-8
SMALL CIRCUIT BOARD 3-9
A.C. CIRCUIT 3-10
POWER SUPPLY CIRCUIT 3-10
MICRO PROCESSOR TIMING CHART 3-13
SYSTEM CONTROL CIRCUIT 3-13
OPERATION CIRCUIT 3-14
SERVO CIRCUIT 3-14
E.COUNTER & TAPE REMAIN CIRCUIT 3-15
AUDIO CIRCUIT 3-17
LUMINANCE,CHROMINANCE CIRCUIT 3-19
TIMER DECODER & TIMER OPERATION CIRCUIT 3-21
TIMER DECODER & TIMER OPERATION CIRCUIT(NV-777B) 3-22
TV DEMODULATOR CIRCUIT(NV-777E,EG) 3-24
TV DEMODULATOR CIRCUIT(NV-777B) 3-26
RF CONVERTER CIRCUIT(NV-777E,EG) 3-28
RF CONVERTER CIRCUIT(NV-777B) 3-29
IR WIRELESS RECEIVER CIRCUIT 3-30
IR WIRELESS TRANSMITTER CIRCUIT 3-30
CIRCUIT BOARD LAYOUT 3-31
INTER CONNECTION SCHEMATIC DIAGRAM 3-32

SYSTEM CONTROL BLOCK DIAGRAM

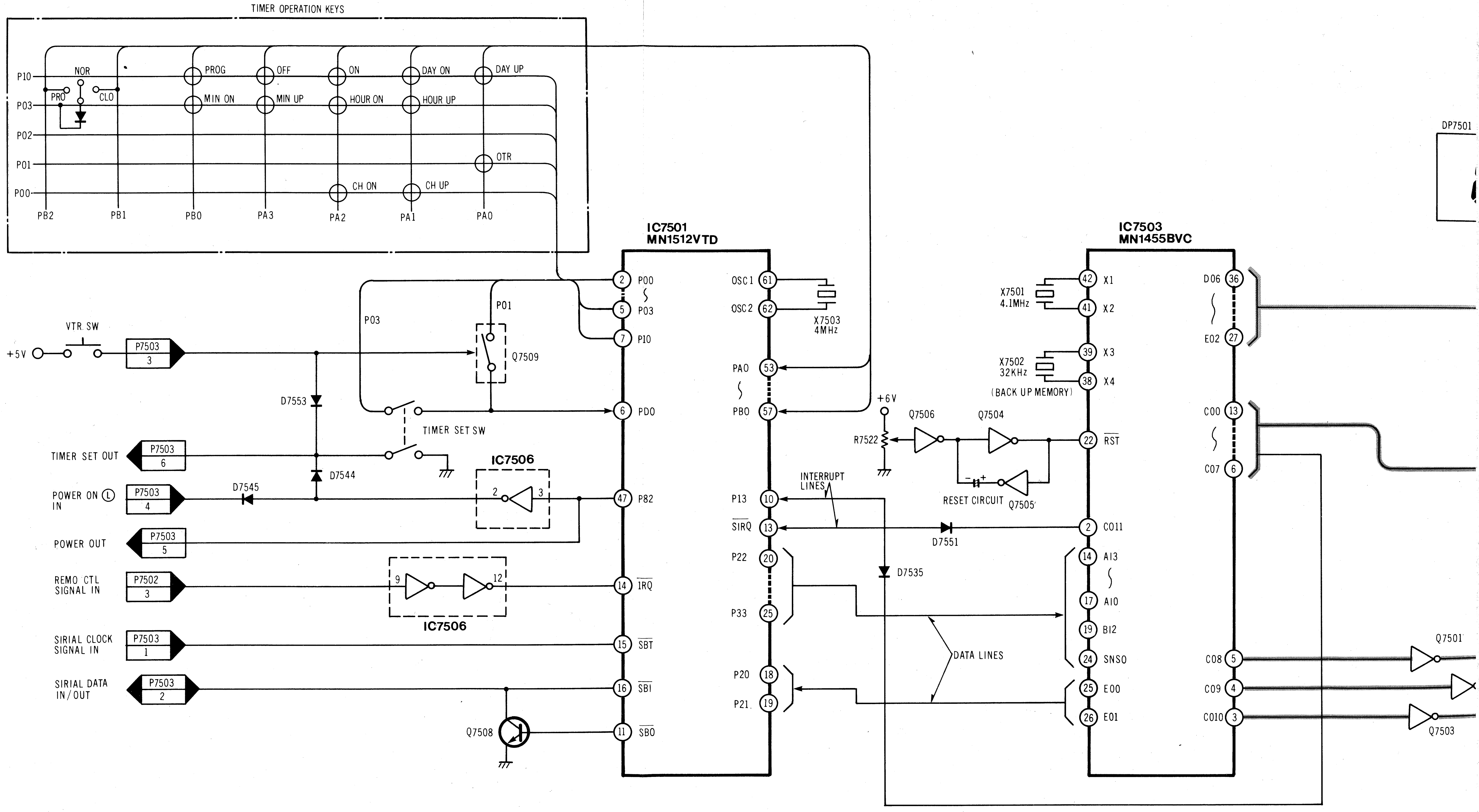

KEY MATRIX
+5V
REW
F.F
PLAY
REC
A.D.
PAUSE
SLOW
EJECT
STOP
RVS
STILL ADV
P6501
P6502
PO2
PO1
PO3
WHEN ONE OF KEY IS PRESSED PO SCAN PULSE IS FEED BACK TO PD PORT OF IC6001
PO SCAN PULSES TIMING
7.0mSec
1.0mSec
5Vp-p
PO Ø ~ PO3 SCAN PULSES
IC6001
PD0
PD1
PD2
PD3
SCK
SLOW Ⓗ
PAUSE Ⓛ
A-D Ⓛ
REC Ⓛ
PLAY Ⓛ
FF Ⓛ
REW Ⓛ
STOP Ⓛ
PC0
PC1
PC2
PC3
SENSOR LED
REEL SUPPLY
REEL TAKE 1
UNLOADING Ⓗ
LOADING Ⓗ
F-UNLOADING Ⓗ
F-LOADING Ⓗ
REEL REV Ⓗ
REEL FRD Ⓗ
SI
SBO
RST
RESET
REEL CTL1
REEL CTL2
REEL CTL3
POWER ON
REW/FF Ⓗ
PLAY/CUE/REV Ⓗ
PLAY → STOP Ⓗ
Q6038
Q6040
Q6041
Q6042
Q6043
Q6011
Q6004
D6001
D6002
D6003
D6004
D6005
D6006
D6007
D6008
D6013
D6014
D6015
D6016
D6056
D6057
D6058
WHEN CASSETTE COMPARTMENT IS PRESSED DOWN PO2 SCAN PULSE IS NOT FEED BACK TO IC6001-
SAFETY DEVICE
MODE SELCT SW
CONTROLLED BY LOADING MECHANISM
P6009
EJECT Ⓟ
STOP Ⓟ
FF / REW REV Ⓟ
PLAY Ⓟ
CASSETTE DOWN SW
CASSETTE IN SW
CASSETTE OUT SW
TURN OVER Ⓟ:Ⓗ FROM SERVO SECTION P2004 ⑤
FROM LCD COUNTER & TAPE REMAINS SECTION P6602 ⑧
ANT SW
CAMERA PAUSE Ⓛ
SAFETY TAB SW
P6008
P6001
P6007
P6004
P6003
P6015
D6011
D6010
COUNTER "0000" IN MEMORY
CAMERA PAUSE Ⓛ
D6012
D6017
D6071
D6054
SUPPLY PHOTO (TAPE END: ON)
TAKE UP PHOTO (TAPE BEGINNING: ON)
IC6006
D6020
D6021
D6028
D6029
D6067
Q6098 POWER/ON: ON
DEW SENSOR
P6010
D6027
Q6008
Q6007
Q6006
D6080
DEW LED Ⓛ
TO LCD COUNTER & TAPE REMAINS SECTION P6602 ⑧
PLAY Ⓛ FROM IC6001 ⑤
CYLINDER LOCK: Ⓛ
EJECT Ⓟ : Ⓛ
STOP Ⓟ : Ⓛ
P6002
D6060
Q6001
Q6046
D6079
D6074
2Vp-p/SEC
10Vp-p/SEC
Q6014
Q6013
SENSOR LED
REEL SUPPLY
HALL IC
REEL TAKE 1
LCD COUNTER & TAPE REMAINS
IC6601
LCD DISPLAY
P6601
P6602
CLOCK 295.6KHz
SERIAL CLOCK SIGNAL
SERIAL DATA
Q6021
CASSETTE DOWN Ⓛ
COTROL PULSE
INDICATING REMAINING TAPE TIME DURING SUPPLING CTL PULSE TO IC6601 - ⑤ IN PLAY
FORWARD DIRECTION WHEN ABOVE PHASE. USING FOR COUNT UP/DOWN
90°
TAKE UP REEL (1)
TAKE UP REEL (2)
SUPPLY REEL PULSE
DEW Ⓛ
COUNTER "0000" IN MEMORY Ⓗ
INT
SCK
SI
SO
PS2
SEGMENT PULSES
COMMON PULSES
S3
S23
COM2
COM1
COM0
P40
P41
P11
P53
P30
TIMER & TUNER
P7503
P7502
Q7508
IC7501
IC7502 (BT MEMORY) (FOR TUNER)
IC7503
TUNING DIGITAL ANALOG CONVERTER OUT
TIMER DISPLAY
GRID
SEGMENT
ON
OFF
CH DISPLAY
CH LOCK
AFC
IC7506
Q7509
D7553
D7544
D7517
REMOCON IN
TIMER SET SW
VTR SW (POWER)
REG+5V
TIMER SET OUT
POWER OUT POWER ON: Ⓛ
Q6015
VTR SW/ON: Ⓛ (TIMER SET/ON: Ⓗ)
Q6047
C6023
40μS
SCK TRANSMISSION
17.31mSec
IC6001-⑯ SI TUNER DATA
IC6001-⑪ SO SYSTEM CONTROL DATA
IC7501-⑪ SI SYSTEM CONTROL DATA
IC7501-⑯ SBO TUNER DATE
SERIAL DATA TRANSMISSION 1,3,5,6 AND 7 ARE NOT USED
IC1005
IN
VC
+5V
+9V
UNREG.+14V
P1003
POWER/OFF: Ⓛ
POWER OFF: Ⓛ
SWITCHED +9V
SWITCHED +5V
POWER SUPPLY
Q6027 FF/REW: ON
D6047
FF/REW Ⓟ : Ⓛ
P6009
POWER STOP BACK UP +8 LINE
+9V
Q6022 POWER STOP: ON
Q6025 REV: ON
Q6028 CUE: ON
Q6023 POWER STOP: ON
C6021 GOLD CAPACITOR
Q6026 POWER STOP: OFF
POWER STOP: Ⓛ (FROM POWER SUPPLY)
POWER STOP BACK UP
D6063
D6062
INHIBIT HIGH OUT PUT OF IC6001 - ⑨, ⑩ WHEN POWER STOP.
F-LOADING MOTOR/LOADING
IC6007
PLAY, FF: ON
REW, REV
D6045
D6040
PLAY, FF Ⓗ
Q6016 PLAY-FF: ON
D6037
POWER STOP: Ⓗ PREVENTION TAPE SLACK
FF 8.2V
PLAY 3.4V
REV/CUE 5.4V
IC6002
REEL CONT1
REEL CONT2
REEL CONT3
CUE Ⓛ
REV Ⓛ
OUT
CUE/REV Ⓗ
PLAY LOADING UNLOADING

AM

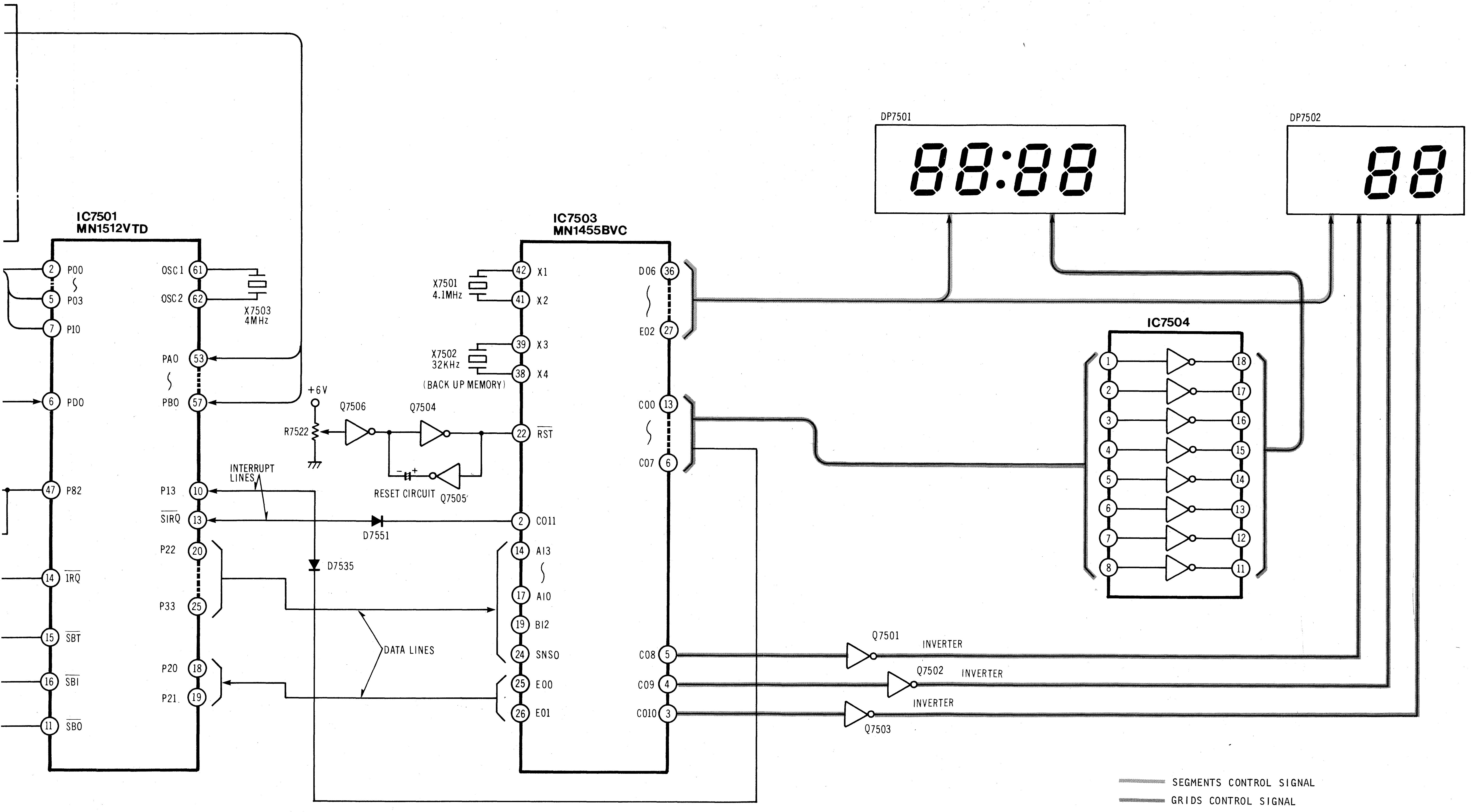


WHEN ONE OF KEY IS PRESSED PO SCAN PULSE IS FEED BACK TO PO PORT OFF IC6001
PAUSE
REC
A.D
PLAY
RVS
SLOW
STILL ADV
P6502
IC6001
SLOW Ⓗ
PAUSE Ⓛ
A-D Ⓛ
REC Ⓛ
PLAY Ⓛ
FF Ⓛ
REW Ⓛ
STOP Ⓛ
SENSOR LED
REEL SUPPLY
REEL TAKE 1
UNLOADING Ⓗ
LOADING Ⓗ
F-UNLOADING Ⓗ
F-LOADING Ⓗ
REEL REV Ⓗ
REEL FRD Ⓗ
REEL CTL1
REEL CTL2
REEL CTL3
POWER ON
REW/FF Ⓗ
PLAY/CUE/REV Ⓗ
PLAY → STOP Ⓗ
RESET
Q6004
Q6011
Q6038
Q6041
Q6042
Q6043
WHEN CASSETTE COMPARTMENT IS PRESSED DOWN PO2 SCAN PULSE IS NOT FEED BACK TO IC6001-○
Q6098 POWER/ON:ON
Q6015
VTR SW/ON: Ⓛ (TIMER SET/ON: Ⓗ)
Q6047
C6023
SERIAL CLOCK SIGNAL
SERIAL DATA
Q6021
INDICATING REMAINING TAPE TIME DURING SUPPLING CTL PULSE TO IC6601 - (55) IN PLAY
FORWARD DIRECTION WHEN ABOVE PHASE. USING FOR COUNT UP/DOWN
LCD COUNTER & TAPE REMAINS
IC6601
CLOCK 295.6KHz
CASSETTE DOWN Ⓛ
COTROL PULSE
TAKE UP REEL (1)
TAKE UP REEL (2)
SUPPLY REEL PULSE
DEW Ⓛ
COUNTER "0000" IN MEMORY Ⓗ
SEGMENT PULSES
COMMON PULSES
LCD DISPLAY
"8" FLASH ON AND OFF, WHEN DEW ON.
2.5msec
TIMER & TUNER
IC7501
Q7508
TUNING DIGITAL ANALOG CONVERTER OUT
IC7502 (BT MEMORY FOR TUNER)
IC7503
GRID
SEGMENT
TIMER DISPLAY
SUN MON TUE WED THU FRI SAT
ON AM OFF PM OTR CH
CH DISPLAY
CH LOCK
AFC
IC7506
Q7509
5V p-p
D7553
D7544
D7517
REMOCON IN
TIMER SET SW
VTR SW (POWER)
REG+5V
TIMER SET OUT
(POWER OUT POWER ON: Ⓛ)
40μS
SCK TRANSMISSION
17.31mSec
IC6001-(16) SI TUNER DATA
IC6001-(11) SO SYSTEM CONTROL DATA
IC7501-(11) SI SYSTEM CONTROL DATA
IC7501-(16) SBO TUNER DATE
SERIAL DATA TRANSMISSION 1,3,5,6 AND 7 ARE NOT USED
Q6014
Q6013
10Vp-p/SEC
IC1005
UNREG +14V
POWER/OFF: Ⓛ
POWER OFF: Ⓛ
SWITCHED +9V
SWITCHED +5V
POWER SUPPLY
Q6027 FF/REW:ON
D6047
FF/REW Ⓟ : Ⓛ
(POWER STOP BACK UP +B LINE)
Q6022 POWER STOP:ON
Q6025 REV:ON
Q6028 CUE:ON
Q6023 POWER STOP:ON
C6021 GOLD CAPACITOR
Q6026 POWER STOP:OFF
POWER STOP: Ⓛ (FROM POWER SUPPLY)
POWER STOP BACK UP
INHIBIT HIGH OUT PUT OF IC6001 - ⑨, ⑩ WHEN POWER STOP.
D6062
D6063
F-LOADING MOTOR/LOADING MOTOR/REEL MOTOR DRIVE
IC6007
PLAY.FF: ON
REW.REV: ON
Q6016 PLAY-FF:ON
Q6017 REW-REV:ON
REW.REV Ⓗ
D6045
D6040
POWER STOP: Ⓗ (PREVENTION TAPE SLACK)
D6037
FF 8.2V PLAY 3.4V REV/CUE 5.4V
D6036
LOADING MOTOR DRIVE
IC6004
F-LOADING MOTOR DRIVE
IC6005
D6022
LOADING MOTOR (CONTROLLING MECHAN)
F-LOADING MOTOR (CONTROLLING CASSETTE COMPARTMENT UP/DOWNISM)
REEL MOTOR
IC6002
REEL CONT1
REEL CONT2
REEL CONT3
CUE Ⓛ
REV Ⓛ
OUT
CUE/REV Ⓗ
PLAY LOADING UNLOADING Ⓗ
Q6020 CUE/REV OFF
Q6019
IC6003
VOLTAGE FEED BACK
+18V
CURRENT FEED BACK
D6038
SERIAL DATA LINE

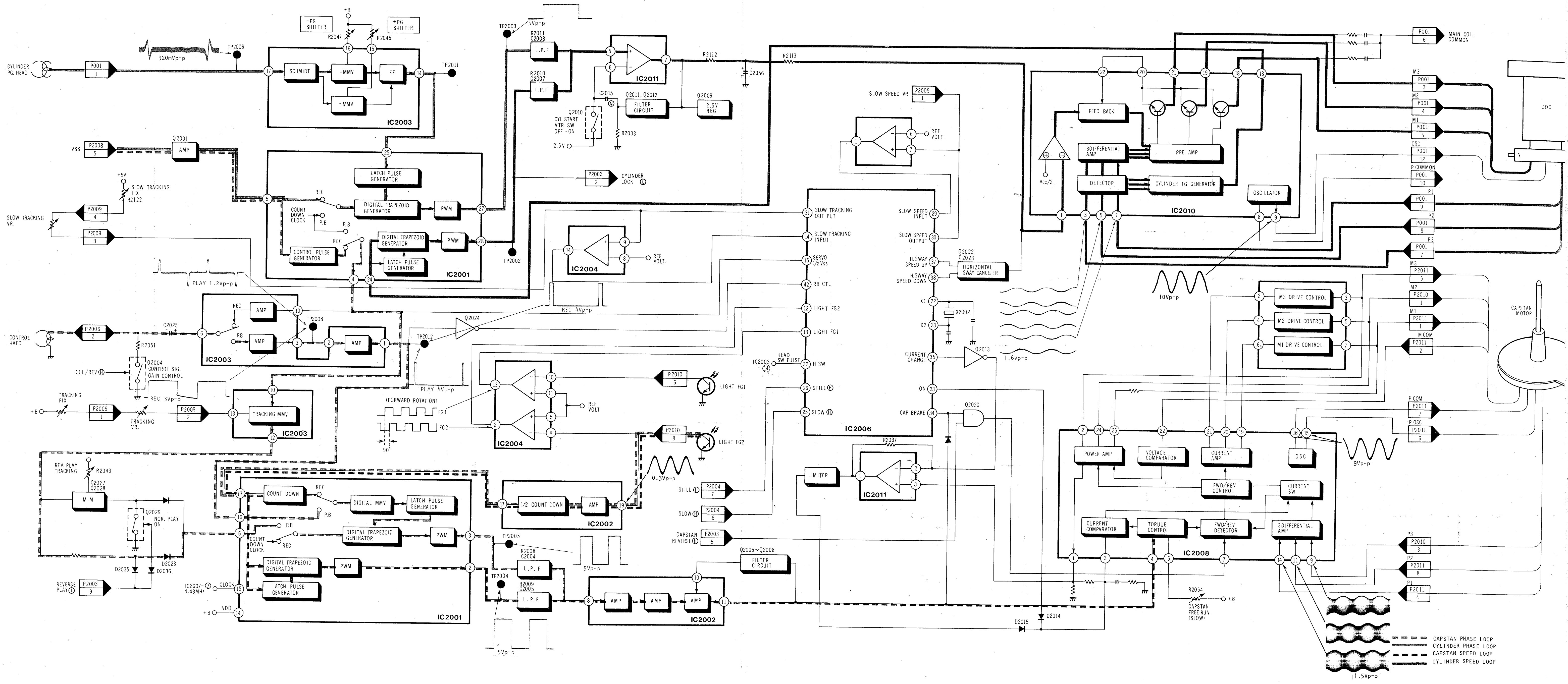
PROGRAMMABLE TIMER BLOCK DIAGRAM

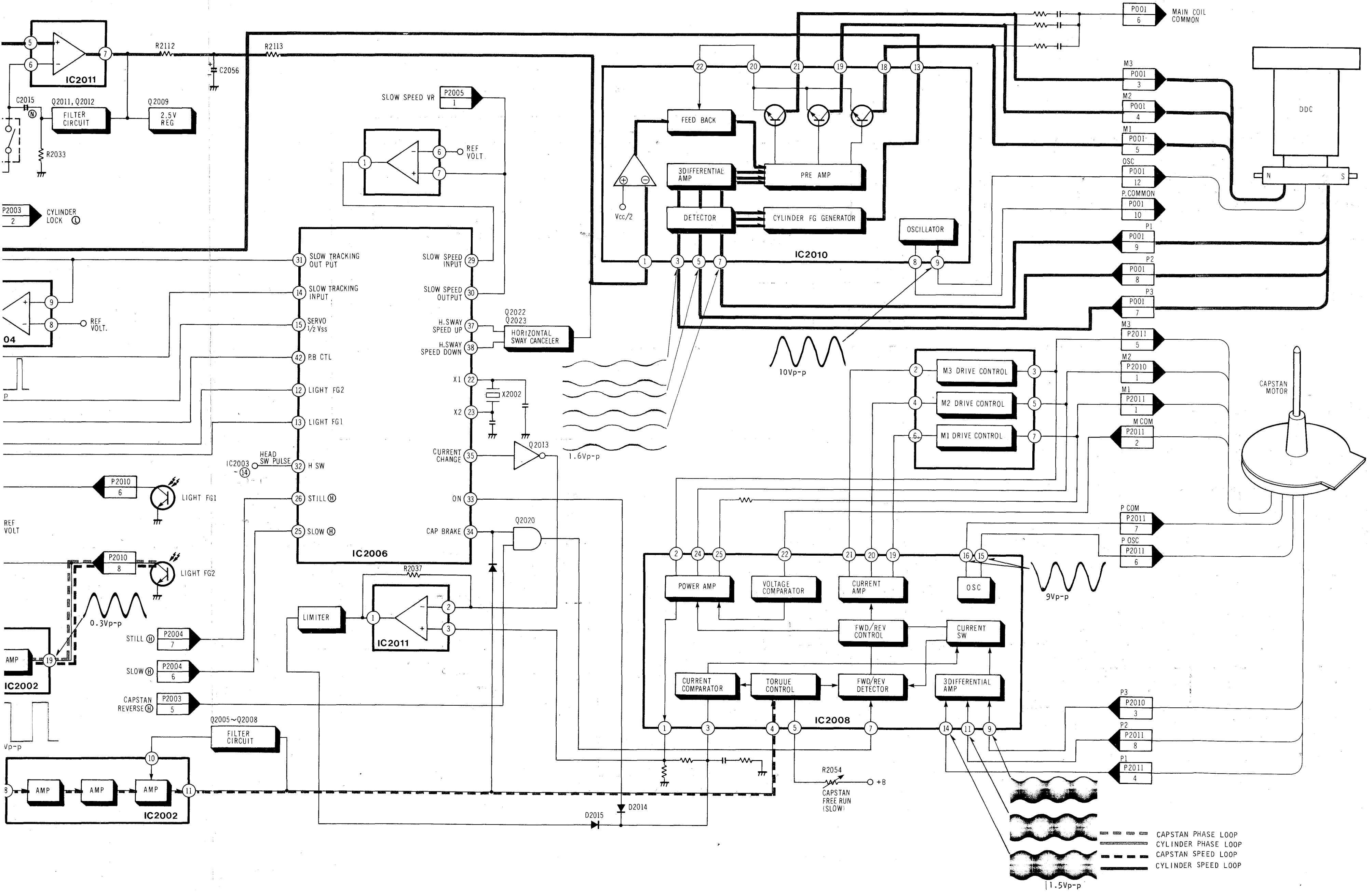


TIMER OPERATION KEYS
P10
P03
P02
P01
P00
NOR
PRO
CLO
PROG
OFF
ON
DAY ON
DAY UP
MIN ON
MIN UP
HOUR ON
HOUR UP
OTR
CH ON
CH UP
PB2
PB1
PB0
PA3
PA2
PA1
PA0
IC7501
MN1512VTD
IC7503
MN1455BVC
DP7501
VTR SW
+5V
P7503 3
P03
P01
Q7509
D7553
TIMER SET SW
TIMER SET OUT
P7503 6
D7544
D7545
IC7506
POWER ON Ⓛ IN
P7503 4
POWER OUT
P7503 5
REMO CTL SIGNAL IN
P7502 3
9
12
IC7506
2
3
SIRIAL CLOCK SIGNAL IN
P7503 1
SIRIAL DATA IN/OUT
P7503 2
Q7508
2 P00
5 P03
7 P10
6 PD0
47 P82
14 IRQ
15 SBT
16 SBI
11 SBO
OSC1 61
OSC2 62
X7503 4MHz
PA0 53
PB0 57
P13 10
SIRQ 13
P22 20
P33 25
P20 18
P21 19
INTERRUPT LINES
DATA LINES
D7535
D7551
+6V
R7522
Q7506
Q7504
Q7505
RESET CIRCUIT
X7501 4.1MHz
X7502 32KHz
(BACK UP MEMORY)
42 X1
41 X2
39 X3
38 X4
22 RST
2 CO11
14 AI3
17 AI0
19 BI2
24 SNS0
25 E00
26 E01
D06 36
E02 27
C00 13
C07 6
C08 5
C09 4
C010 3
Q7501
Q7503

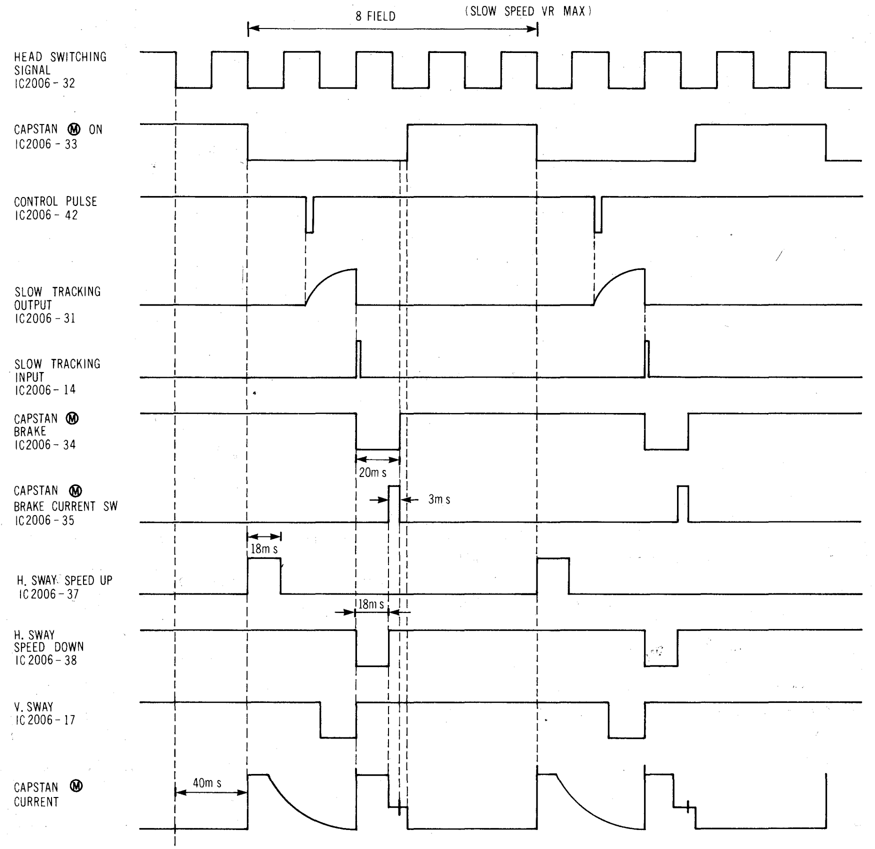

IC7501
MN1512VTD
P00
P03
P10
PD0
P82
IRQ
SBT
SBI
SBO
OSC1
OSC2
PA0
PB0
P13
SIRQ
P22
P33
P20
P21
X7503
4MHz
+6V
R7522
Q7506
Q7504
Q7505
RESET CIRCUIT
INTERRUPT LINES
D7551
D7535
DATA LINES
IC7503
MN1455BVC
X7501
4.1MHz
X7502
32KHz
(BACK UP MEMORY)
X1
X2
X3
X4
RST
CO11
A13
A10
B12
SNSO
E00
E01
D06
E02
C00
C07
C08
C09
C010
DP7501
DP7502
IC7504
Q7501
Q7502
Q7503
INVERTER
INVERTER
INVERTER
SEGMENTS CONTROL SIGNAL
GRIDS CONTROL SIGNAL

SERVO BLOCK DIAGRAM

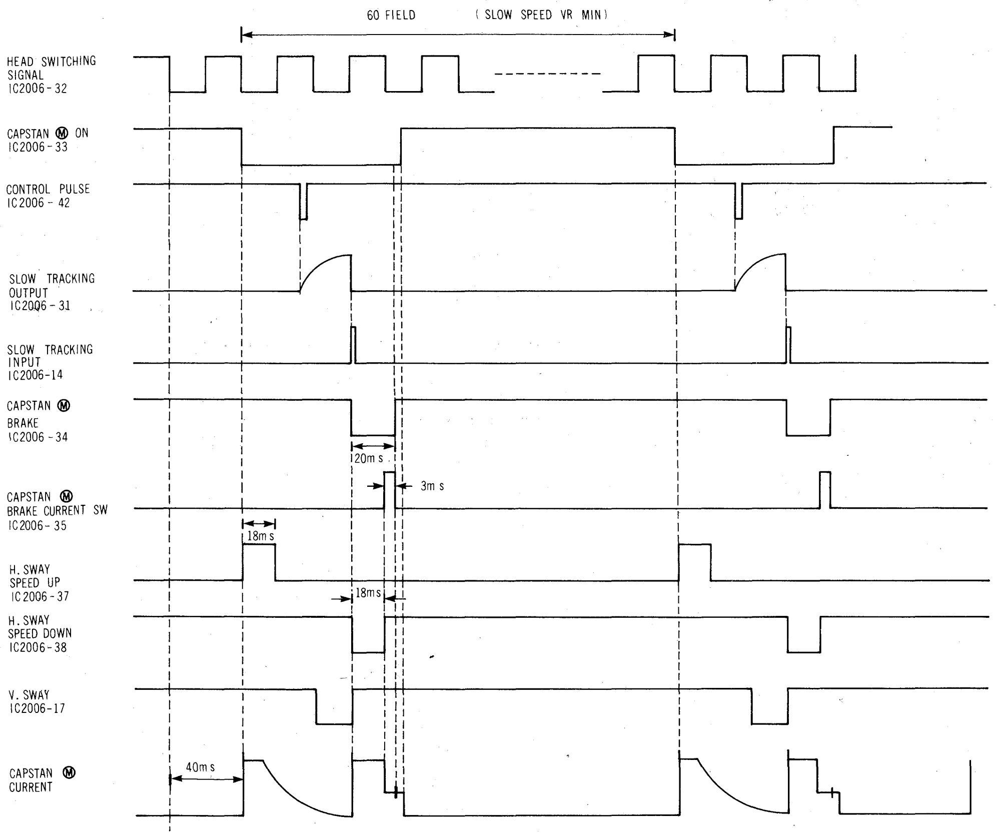

CYLINDER PG. HEAD
P001 1
320mVp-p
TP2006
-PG SHIFTER
+PG SHIFTER
+B
R2047
R2045
SCHMIDT
-MMV
+MMV
FF
TP2011
IC2003
VSS
P2008 5
Q2001 AMP
+5V
SLOW TRACKING FIX R2122
SLOW TRACKING VR.
P2009 4
P2009 3
LATCH PULSE GENERATOR
DIGITAL TRAPEZOID GENERATOR
PWM
REC
P.B
COUNT DOWN CLOCK
CONTROL PULSE GENERATOR
LATCH PULSE GENERATOR
IC2001
TP2002
TP2003
5Vp-p
R2011 C2008
R2010 C2007
L.P.F
IC2011
C2015
Q2010 CYL START VTR SW OFF-ON
2.5V
R2033
Q2011, Q2012 FILTER CIRCUIT
Q2009 2.5V REG
R2112
R2113
C2056
P2003 2
CYLINDER LOCK Ⓛ
IC2004
REF VOLT.
PLAY 1.2Vp-p
CONTROL HAED
P2006 2
C2025
R2051
AMP
TP2008
Q2024
TP2012
REC 4Vp-p
CUE/REV Ⓗ
Q2004 CONTROL SIG. GAIN CONTROL
REC 3Vp-p
TRACKING FIX
+B
P2009 1
TRACKING VR.
P2009 2
TRACKING MMV
PLAY 4Vp-p
(FORWARD ROTATION)
FG1
FG2
90°
P2010 6
LIGHT FG1
P2010 8
LIGHT FG2
0.3Vp-p
REV. PLAY TRACKING
R2043
Q2027 Q2028
M.M
Q2029 NOR. PLAY ON
D2035
D2023
D2036
REVERSE PLAY Ⓛ
P2003 9
COUNT DOWN
DIGITAL MMV
LATCH PULSE GENERATOR
DIGITAL TRAPEZOID GENERATOR
PWM
IC2007-⑦ 4.43MHz CLOCK
VDD
1/2 COUNT DOWN
IC2002
TP2005
R2008 C2004
TP2004
R2009 C2005
5Vp-p
SLOW SPEED VR
P2005 1
SLOW TRACKING OUT PUT
SLOW TRACKING INPUT
SERVO 1/2 Vss
PB CTL
LIGHT FG2
LIGHT FG1
IC2003 -⑭
HEAD SW PULSE
H SW
STILL Ⓗ
SLOW Ⓗ
SLOW SPEED INPUT
SLOW SPEED OUTPUT
H.SWAY SPEED UP
H.SWAY SPEED DOWN
Q2022 Q2023 HORIZONTAL SWAY CANCELER
X1
X2
X2002
CURRENT CHANGE
Q2013
1.6Vp-p
ON
CAP BRAKE
Q2020
IC2006
R2037
LIMITER
STILL Ⓗ P2004 7
SLOW Ⓗ P2004 6
CAPSTAN REVERSE Ⓗ P2003 5
Q2005~Q2008 FILTER CIRCUIT
D2015
D2014
FEED BACK
3DIFFERENTIAL AMP
PRE AMP
DETECTOR
CYLINDER FG GENERATOR
OSCILLATOR
Vcc/2
IC2010
10Vp-p
P001 6 MAIN COIL COMMON
M3 P001 3
M2 P001 4
M1 P001 5
OSC P001 12
P.COMMON P001 10
P1 P001 9
P2 P001 8
P3 P001 7
DDC
M3 DRIVE CONTROL
M2 DRIVE CONTROL
M1 DRIVE CONTROL
M3 P2011 5
M2 P2010 1
M1 P2011 1
M.COM P2011 2
CAPSTAN MOTOR
P.COM P2011 7
P.OSC P2011 6
POWER AMP
VOLTAGE COMPARATOR
CURRENT AMP
OSC
9Vp-p
FWD/REV CONTROL
CURRENT SW
CURRENT COMPARATOR
TORQUE CONTROL
FWD/REV DETECTOR
3DIFFERENTIAL AMP
IC2008
R2054
CAPSTAN FREE RUN (SLOW)
P3 P2010 3
P2 P2011 8
P1 P2011 4
1.5Vp-p
CAPSTAN PHASE LOOP
CYLINDER PHASE LOOP
CAPSTAN SPEED LOOP
CYLINDER SPEED LOOP


IC2011
R2112
R2113
C2056
C2015
Q2011, Q2012
FILTER CIRCUIT
Q2009
2.5V REG
R2033
P2003
CYLINDER LOCK Ⓛ
SLOW SPEED VR
P2005
REF VOLT
SLOW TRACKING OUT PUT
SLOW TRACKING INPUT
SERVO 1/2 Vss
P.B CTL
LIGHT FG2
LIGHT FG1
IC2003 ⑭
HEAD SW PULSE
H SW
STILL Ⓗ
SLOW Ⓗ
IC2006
SLOW SPEED INPUT
SLOW SPEED OUTPUT
H.SWAY SPEED UP
H.SWAY SPEED DOWN
Q2022 Q2023
HORIZONTAL SWAY CANCELER
X1
X2
X2002
CURRENT CHANGE
Q2013
1.6Vp-p
ON
CAP BRAKE
Q2020
P2010
LIGHT FG1
P2010
LIGHT FG2
0.3Vp-p
P2004
STILL Ⓗ
SLOW Ⓗ
CAPSTAN REVERSE Ⓗ
P2003
AMP
IC2002
LIMITER
R2037
IC2011
Q2005~Q2008
FILTER CIRCUIT
AMP
AMP
AMP
IC2002
D2015
D2014
FEED BACK
3DIFFERENTIAL AMP
PRE AMP
DETECTOR
CYLINDER FG GENERATOR
OSCILLATOR
Vcc/2
IC2010
10Vp-p
P001
MAIN COIL COMMON
M3
M2
M1
OSC
P.COMMON
P1
P2
P3
DDC
N
S
M3 DRIVE CONTROL
M2 DRIVE CONTROL
M1 DRIVE CONTROL
P2011
P2010
M COM
CAPSTAN MOTOR
P COM
P OSC
9Vp-p
POWER AMP
VOLTAGE COMPARATOR
CURRENT AMP
OSC
FWD/REV CONTROL
CURRENT SW
CURRENT COMPARATOR
TORUUE CONTROL
FWD/REV DETECTOR
3DIFFERENTIAL AMP
IC2008
R2054
+8
CAPSTAN FREE RUN (SLOW)
1.5Vp-p
CAPSTAN PHASE LOOP
CYLINDER PHASE LOOP
CAPSTAN SPEED LOOP
CYLINDER SPEED LOOP

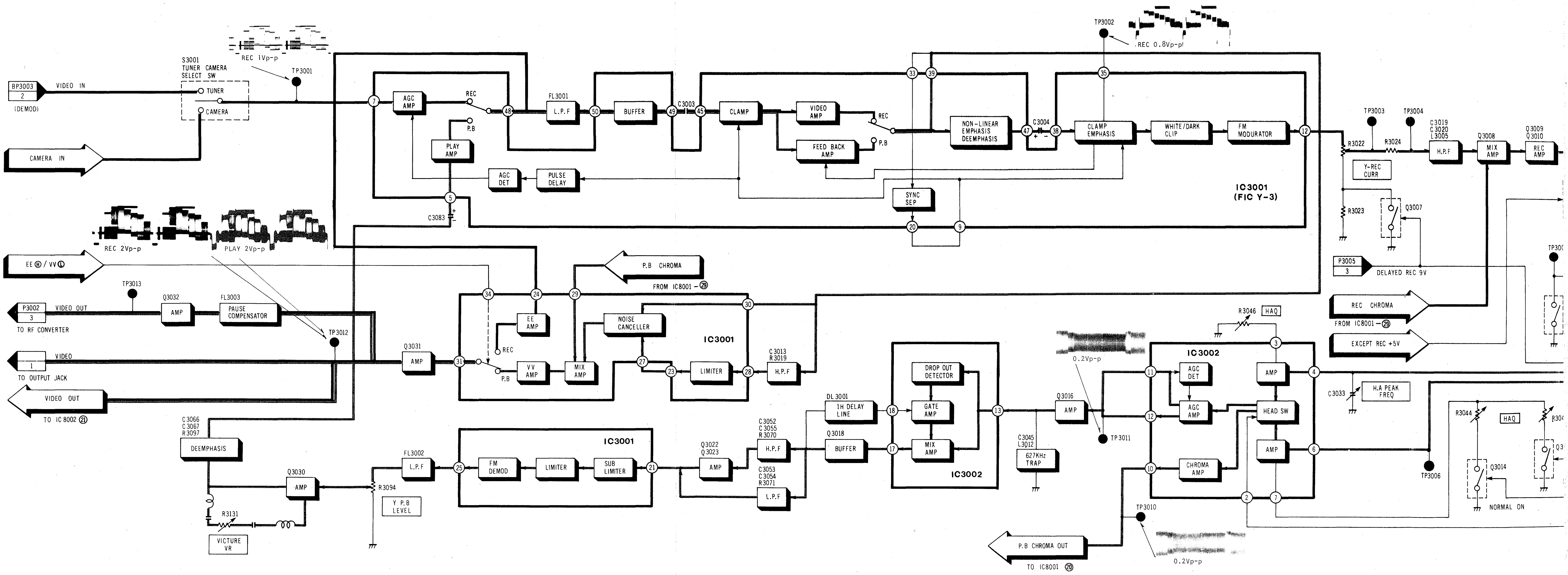
IC2006 SLOW MODE TIMING CHART 1



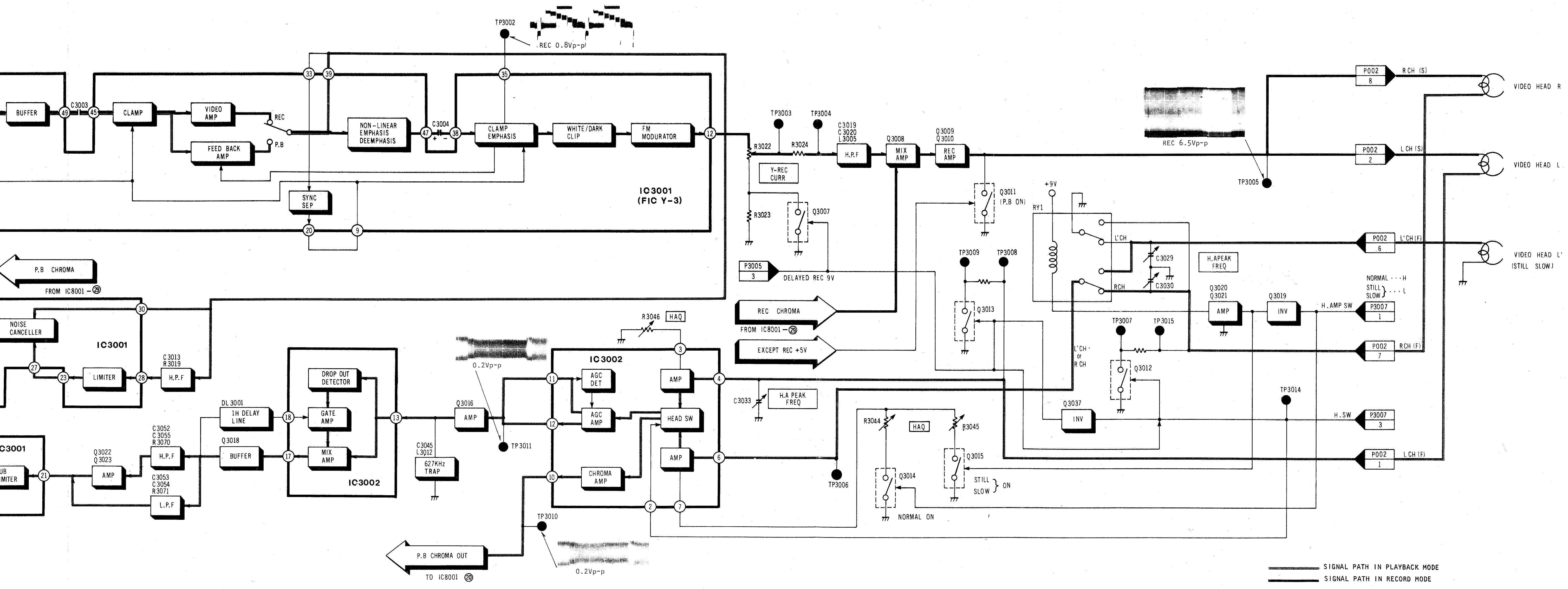
IC2006 SLOW MODE TIMING CHART 2



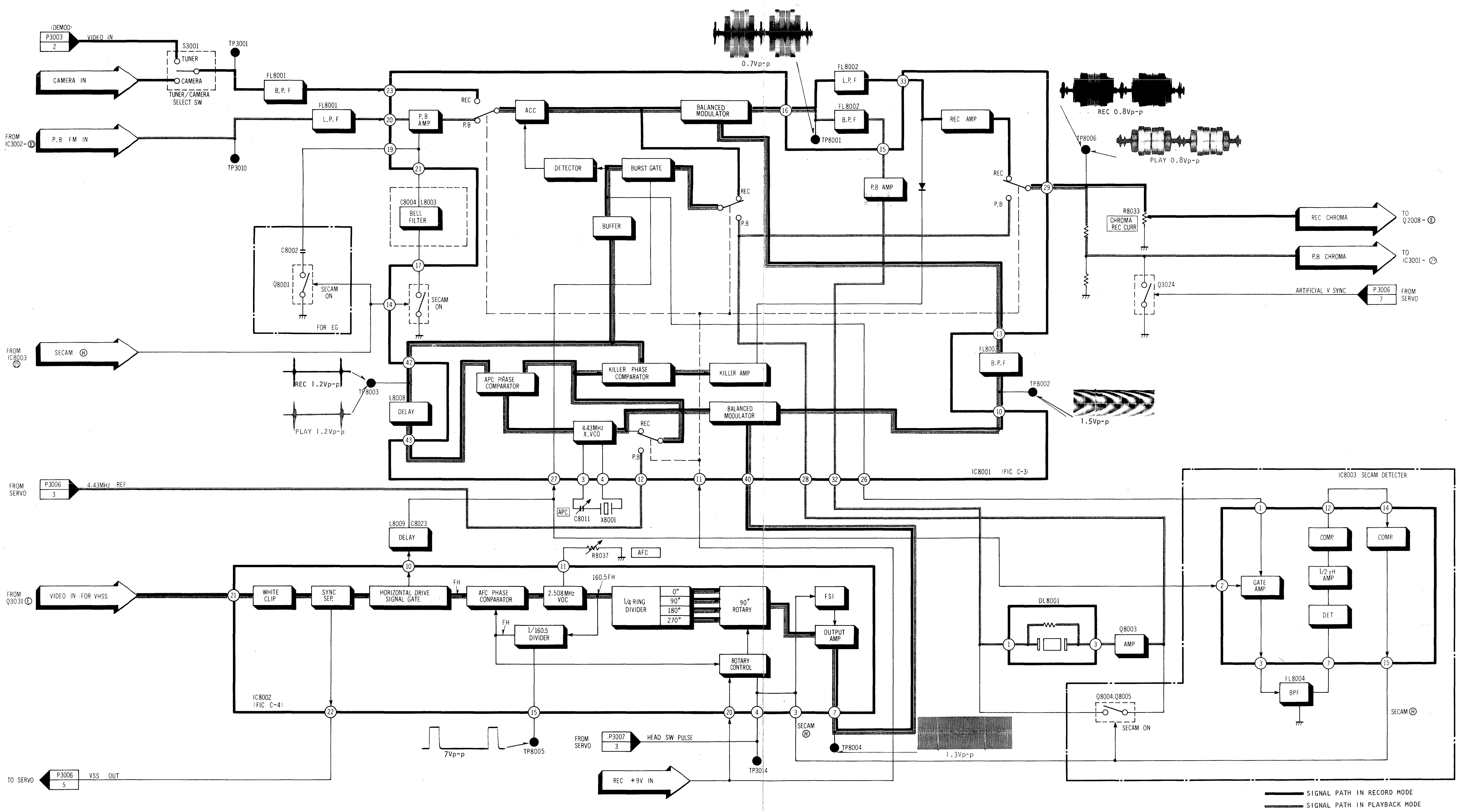
LUMINANCE PROCESS BLOCK DIAGRAM



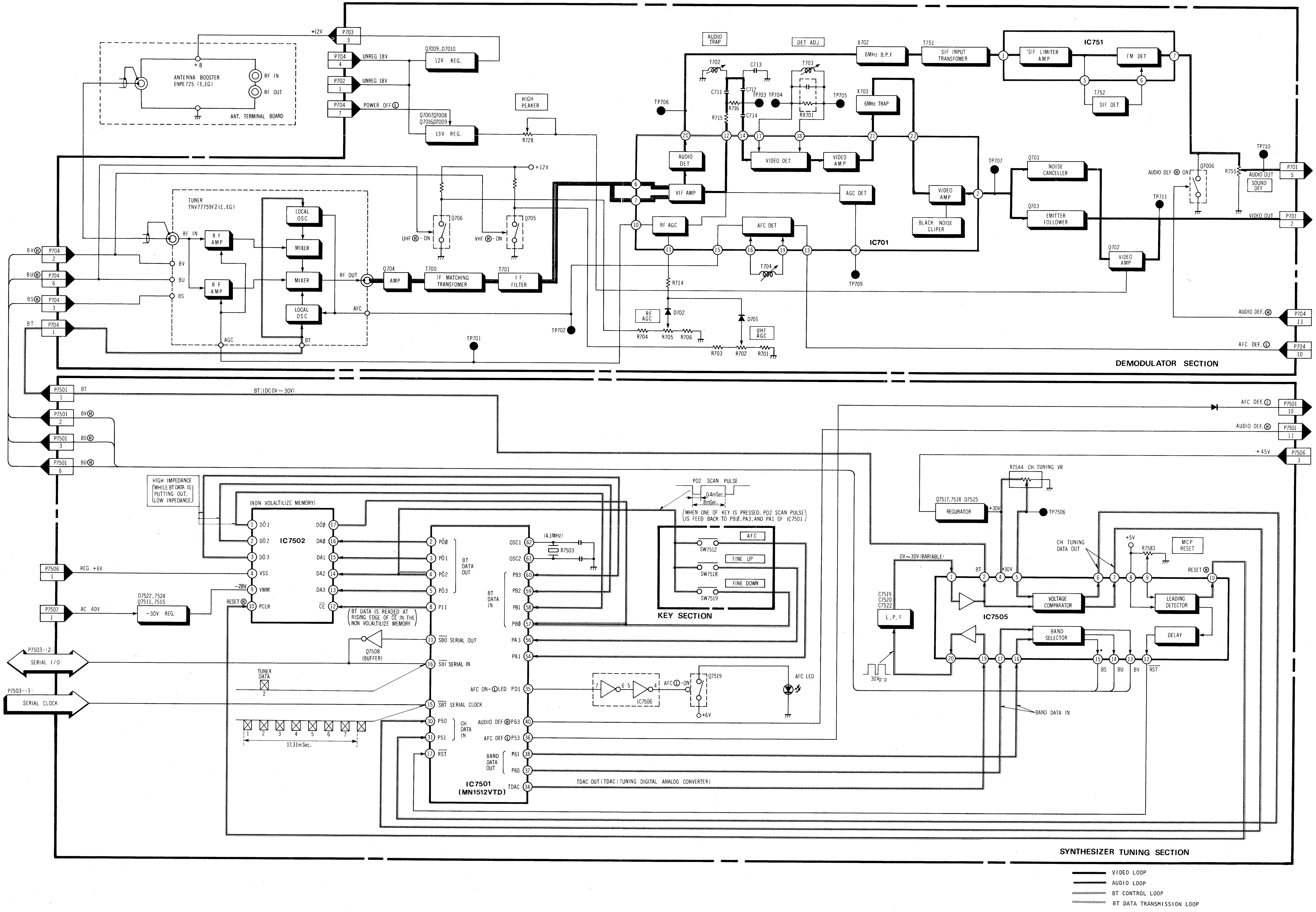
BP3003
2
(DEMOD)
VIDEO IN
CAMERA IN
S3001
TUNER CAMERA
SELECT SW
TUNER
CAMERA
REC 1Vp-p
TP3001
AGC AMP
REC
P.B
PLAY AMP
AGC DET
PULSE DELAY
C3083
FL3001
L.P.F
BUFFER
C3003
CLAMP
VIDEO AMP
FEED BACK AMP
REC
P.B
SYNC SEP
TP3002
REC 0.8Vp-p
NON-LINEAR EMPHASIS DEEMPHASIS
C3004
CLAMP EMPHASIS
WHITE/DARK CLIP
FM MODURATOR
IC3001
(FIC Y-3)
TP3003
TP3004
R3022
R3024
Y-REC CURR
R3023
Q3007
C3019
C3020
L3005
H.P.F
Q3008
MIX AMP
Q3009
Q3010
REC AMP
P3005
3
DELAYED REC 9V
REC CHROMA
FROM IC8001 ㉙
EXCEPT REC +5V
REC 2Vp-p
PLAY 2Vp-p
EE Ⓗ / VV Ⓛ
TP3013
P3002
3
VIDEO OUT
TO RF CONVERTER
Q3032
AMP
FL3003
PAUSE COMPENSATOR
TP3012
VIDEO
1
TO OUTPUT JACK
VIDEO OUT
TO IC 8002 ㉑
Q3031
AMP
EE AMP
REC
P.B
VV AMP
MIX AMP
NOISE CANCELLER
LIMITER
IC3001
P.B CHROMA
FROM IC8001 ㉙
C3013
R3019
H.P.F
C3066
C3067
R3097
DEEMPHASIS
Q3030
AMP
R3131
VICTURE VR
R3094
Y P.B LEVEL
FL3002
L.P.F
IC3001
FM DEMOD
LIMITER
SUB LIMITER
Q3022
Q3023
AMP
C3052
C3055
R3070
H.P.F
C3053
C3054
R3071
L.P.F
DL3001
1H DELAY LINE
Q3018
BUFFER
DROP OUT DETECTOR
GATE AMP
MIX AMP
IC3002
0.2Vp-p
C3045
L3012
627KHz TRAP
Q3016
AMP
TP3011
R3046
HAQ
IC3002
AGC DET
AGC AMP
AMP
HEAD SW
AMP
CHROMA AMP
C3033
H.A PEAK FREQ
TP3006
R3044
HAQ
Q3014
NORMAL ON
TP3010
P.B CHROMA OUT
TO IC8001 ⑳
0.2Vp-p


TP3002
REC 0.8Vp-p
BUFFER
C3003
49
45
CLAMP
VIDEO AMP
REC
FEED BACK AMP
P.B
33
39
NON-LINEAR EMPHASIS DEEMPHASIS
C3004
47
38
35
CLAMP EMPHASIS
WHITE/DARK CLIP
FM MODURATOR
12
SYNC SEP
IC3001 (FIC Y-3)
20
9
P.B CHROMA
FROM IC8001 — ㉙
30
NOISE CANCELLER
IC3001
27
23
LIMITER
28
C3013 R3019
H.P.F
C3001
UB LIMITER
21
Q3022 Q3023
AMP
C3052 C3055 R3070
H.P.F
C3053 C3054 R3071
L.P.F
DL3001
1H DELAY LINE
Q3018
BUFFER
18
17
DROP OUT DETECTOR
GATE AMP
MIX AMP
IC3002
13
C3045 L3012
627KHz TRAP
Q3016
AMP
0.2Vp-p
TP3011
P.B CHROMA OUT
TO IC8001 ⑳
TP3010
0.2Vp-p
R3046
HAQ
IC3002
3
11
AGC DET
AGC AMP
12
AMP
4
HEAD SW
10
CHROMA AMP
AMP
6
2
7
TP3003
TP3004
R3022
R3024
C3019 C3020 L3005
H.P.F
Q3008
MIX AMP
Q3009 Q3010
REC AMP
Y-REC CURR
R3023
Q3007
P3005 3
DELAYED REC 9V
REC CHROMA
FROM IC8001 — ㉙
EXCEPT REC +5V
C3033
H.A PEAK FREQ
TP3006
Q3011 (P.B ON)
TP3009
TP3008
Q3013
R3044
HAQ
R3045
Q3014
NORMAL ON
Q3015
STILL SLOW } ON
REC 6.5Vp-p
TP3005
+9V
RY1
L'CH
RCH
C3029
C3030
H.APEAK FREQ
L'CH or R CH
TP3007
TP3015
Q3012
Q3037
INV
Q3020 Q3021
AMP
Q3019
INV
TP3014
P002 8
R CH (S)
P002 2
L CH (S)
P002 6
L'CH (F)
VIDEO HEAD R
VIDEO HEAD L
VIDEO HEAD L' (STILL SLOW)
NORMAL ···H
STILL SLOW } ···L
H.AMP SW
P3007 1
P002 7
RCH (F)
H.SW
P3007 3
P002 1
L CH (F)
SIGNAL PATH IN PLAYBACK MODE
SIGNAL PATH IN RECORD MODE

CHROMINANCE PROCESS BLOCK DIAGRAM

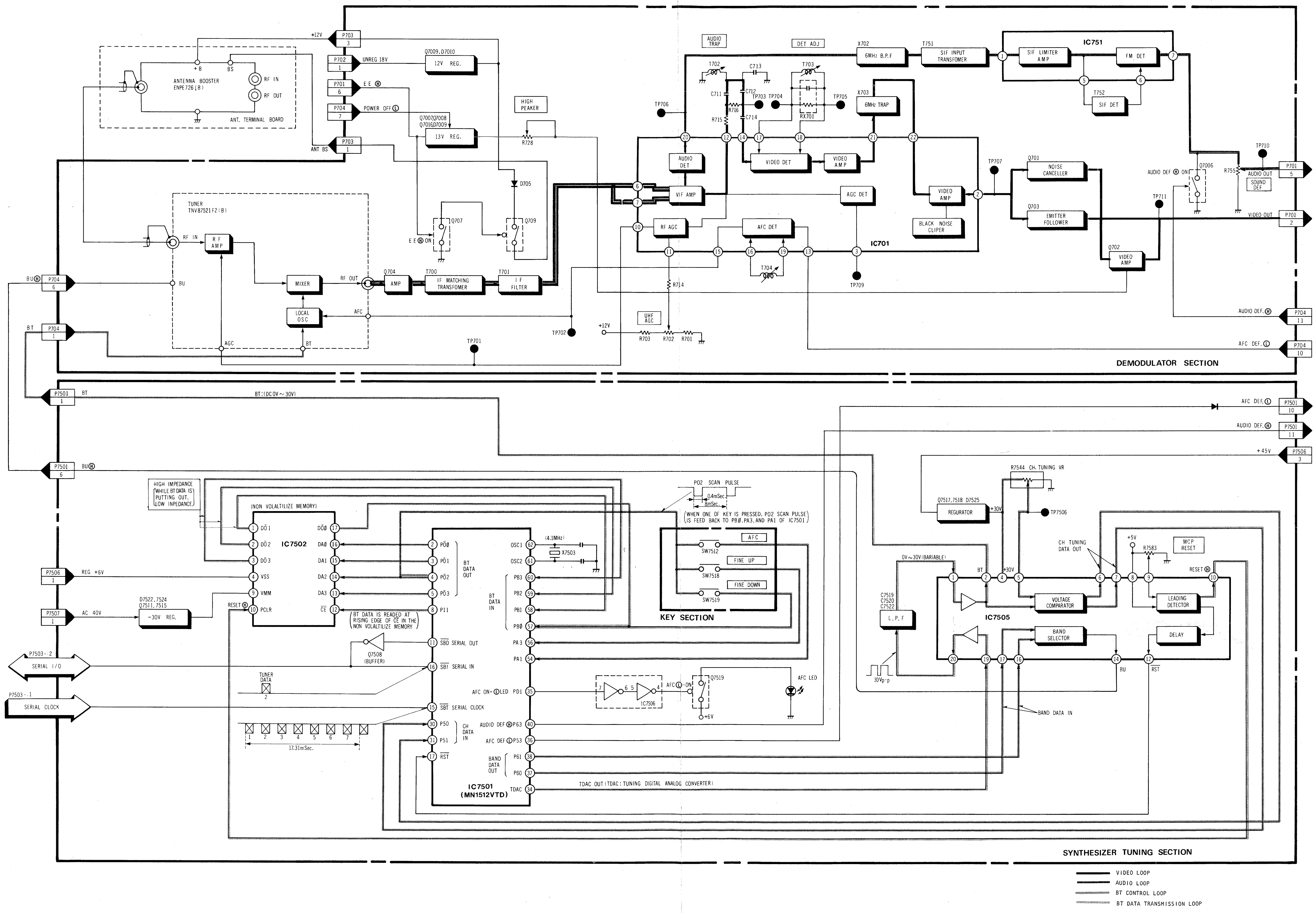

(DEMOD)
P3003
2
VIDEO IN
S3001
TUNER
CAMERA
TUNER/CAMERA SELECT SW
TP3001
CAMERA IN
FROM IC3002-⑬
P.B FM IN
TP3010
FL8001
B.P.F
FL8001
L.P.F
P.B AMP
REC
P.B
ACC
DETECTOR
BURST GATE
BUFFER
BALANCED MODULATOR
0.7Vp-p
FL8002
L.P.F
FL8002
B.P.F
TP8001
P.B AMP
REC AMP
REC 0.8Vp-p
PLAY 0.8Vp-p
TP8006
R8033
CHROMA REC CURR
REC CHROMA
TO Q2008-Ⓔ
P.B CHROMA
TO IC3001-⑳
Q3024
ARTIFICIAL V SYNC
P3006
7
FROM SERVO
C8004 L8003
BELL FILTER
C8002
Q8001
SECAM ON
FOR EG
SECAM ON
FROM IC8003 ⑮
SECAM Ⓗ
REC 1.2Vp-p
TP8003
PLAY 1.2Vp-p
L8008
DELAY
APC PHASE COMPARATOR
KILLER PHASE COMPARATOR
KILLER AMP
BALANCED MODULATOR
4.43MHz X.VCO
FL8003
B.P.F
TP8002
1.5Vp-p
IC8001 (FIC C-3)
FROM SERVO
P3006
3
4.43MHz REF
APC
C8011
X8001
L8009 C8023
DELAY
R8037
AFC
IC8003 SECAM DETECTER
COMP.
COMP.
1/2 fH AMP
DET
GATE AMP
FL8004
BPF
SECAM Ⓗ
DL8001
Q8003
AMP
Q8004,Q8005
SECAM ON
FROM Q3031 Ⓔ
VIDEO IN (FOR VHSS)
WHITE CLIP
SYNC SEP.
HORIZONTAL DRIVE SIGNAL GATE
FH
AFC PHASE CONPARATOR
FH
1/160.5 DIVIDER
2.508MHz VOC
160.5FH
1/4 RING DIVIDER
0°
90°
180°
270°
90° ROTARY
FSI
OUTPUT AMP
ROTARY CONTROL
IC8002 (FIC C-4)
7Vp-p
TP8005
FROM SERVO
P3007
3
HEAD SW PULSE
TP3014
SECAM Ⓗ
TP8004
1.3Vp-p
REC +9V IN
TO SERVO
P3006
5
VSS OUT
SIGNAL PATH IN RECORD MODE
SIGNAL PATH IN PLAYBACK MODE

TV DEMODULATOR & SYNTHESIZER TUNER BLOCK DIAGRAM (NV-777E, EG)

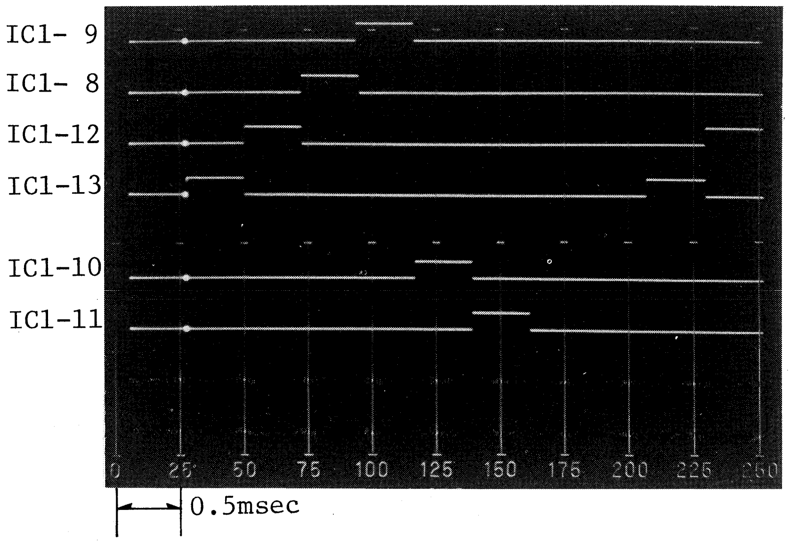


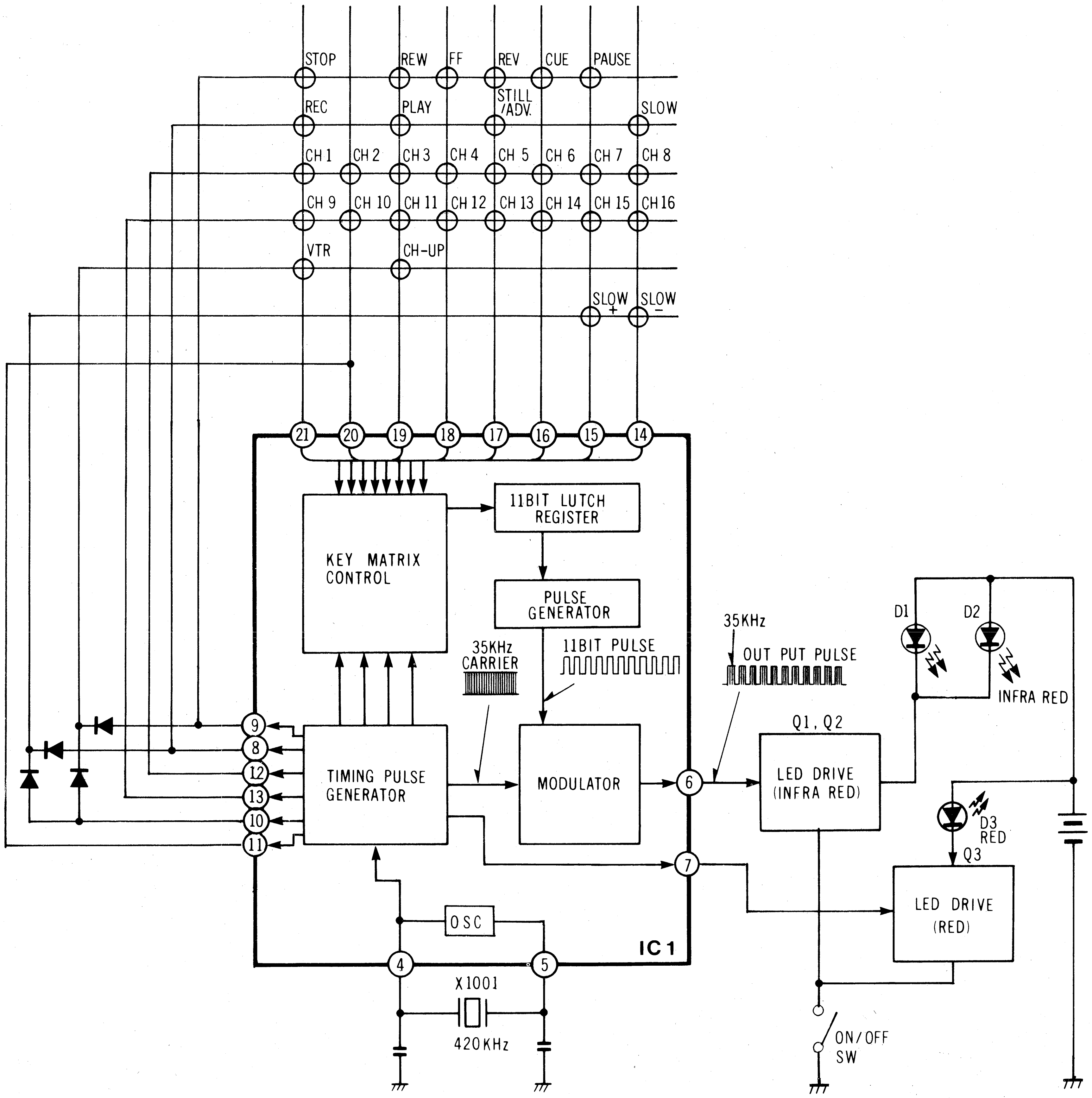
ANTENNA BOOSTER
ENPE725 (E,EG)
+B
RF IN
RF OUT
ANT. TERMINAL BOARD
+12V
P703 3
P704 4
UNREG 18V
P702 1
P704 7
POWER OFF Ⓛ
Q7009, D7010
12V REG.
Q7007, Q7008
Q7016, D7009
13V REG.
HIGH PEAKER
R728
+12V
TUNER
TNV77759F2(E,EG)
RF IN
RF AMP
LOCAL OSC
MIXER
RF OUT
AFC
AGC
BT
BV
BU
BS
Q704
AMP
T700
IF MATCHING TRANSFOMER
T701
IF FILTER
Q706
Q705
UHF Ⓗ-ON
VHF Ⓗ-ON
BVⒽ P704 2
BUⒽ P704 6
BSⒽ P704 3
BT P704 1
TP701
TP702
AUDIO TRAP
DET ADJ
T702
C713
T703
C711
C712
R716
R715
C714
TP703
TP704
TP705
TP706
RX701
AUDIO DET
VIDEO DET
VIDEO AMP
VIF AMP
RF AGC
AFC DET
AGC DET
T704
R714
D702
D701
RF AGC
UHF AGC
R704
R705
R706
R703
R702
R701
IC701
TP709
X702
6MHz B.P.F
X703
6MHz TRAP
T751
SIF INPUT TRANSFOMER
IC751
SIF LIMITER AMP
FM DET
T752
SIF DET
TP707
VIDEO AMP
BLACK NOISE CLIPER
Q701
NOISE CANCELLER
Q703
EMITTER FOLLOWER
Q702
VIDEO AMP
TP711
TP710
AUDIO DEF Ⓗ ON
Q7006
R755
AUDIO OUT
SOUND DEF
P701 5
VIDEO OUT
P701 2
AUDIO DEF.Ⓗ
P704 11
AFC DEF.Ⓛ
P704 10
DEMODULATOR SECTION
P7501 1
BT
BT:(DC0V～30V)
P7501 2
BVⒽ
P7501 3
BSⒽ
P7501 6
BUⒽ
AFC DEF.Ⓛ
P7501 10
AUDIO DEF.Ⓗ
P7501 11
+45V
P7506 3
HIGH IMPEDANCE
(WHILE BT DATA IS PUTTING OUT, LOW INPEDANCE)
(NON VOLATILIZE MEMORY)
IC7502
DO1
DO2
DO3
VSS
VMM
PCLR
DO0
DA0
DA1
DA2
DA3
CE
-28V
RESET Ⓗ
P7506 1
REG +6V
P7507 1
AC 40V
D7522, 7524
Q7511, 7515
-30V REG.
(BT DATA IS READED AT RISING EDGE OF CE IN THE NON VOLATILIZE MEMORY)
Q7508 (BUFFER)
P7503-(2)
SERIAL I/O
P7503-(1)
SERIAL CLOCK
TUNER DATA
17.31mSec.
P00
P01
P02
P03
P11
BT DATA OUT
BT DATA IN
SBO SERIAL OUT
SBI SERIAL IN
SBT SERIAL CLOCK
P50
P51
CH DATA IN
RST
OSC1
OSC2
(4.1MHz)
X7503
PB3
PB2
PB1
PB0
PA3
PA1
AFC ON-ⓁLED PD1
AUDIO DEF ⒽP63
AFC DEF ⓁP53
BAND DATA OUT
P61
P60
TDAC
TDAC OUT (TDAC: TUNING DIGITAL ANALOG CONVERTER)
IC7501
(MN1512VTD)
P02 SCAN PULSE
0.4mSec.
8mSec.
(WHEN ONE OF KEY IS PRESSED, P02 SCAN PULSE IS FEED BACK TO PB0, PA3, AND PA1 OF IC7501)
AFC
SW7512
FINE UP
SW7518
FINE DOWN
SW7519
KEY SECTION
IC7506
AFC Ⓛ-ON
Q7519
+6V
AFC LED
R7544 CH. TUNING VR
Q7517, 7518 D7525
REGURATOR
+30V
TP7506
CH TUNING DATA OUT
+5V
R7583
MCP RESET
0V～30V (BARIABLE)
C7519
C7520
C7522
L.P.F
30Vp-p
IC7505
VOLTAGE COMPARATOR
LEADING DETECTOR
BAND SELECTOR
DELAY
RESET
BS
BU
BV
RST
BAND DATA IN
SYNTHESIZER TUNING SECTION
VIDEO LOOP
AUDIO LOOP
BT CONTROL LOOP
BT DATA TRANSMISSION LOOP

TV DEMODULATOR & SYNTHESIZER TUNER BLOCK DIAGRAM (NV-777B)


ANTENNA BOOSTER ENPE726(B)
RF IN
RF OUT
ANT. TERMINAL BOARD
+B
BS
+12V
P703 3
P702 1
UNREG 18V
Q7009, D7010
12V REG.
P701 6
E E Ⓗ
P704 7
POWER OFF Ⓛ
Q7007, Q7008
Q7016, D7009
13V REG.
ANT BS
P703 1
HIGH PEAKER
R728
D705
Q707
Q709
EE Ⓗ ON
TUNER TNV87521F2(B)
RF AMP
MIXER
LOCAL OSC
RF OUT
AFC
AGC
BT
BU
Q704 AMP
T700 IF MATCHING TRANSFOMER
T701 I F FILTER
TP701
TP702
+12V
UHF AGC
R703
R702
R701
R714
AUDIO TRAP
DET ADJ
T702
C713
T703
C711
C712
R716
R715
C714
TP703
TP704
TP705
RX701
TP706
AUDIO DET
VIF AMP
RF AGC
VIDEO DET
VIDEO AMP
AFC DET
AGC DET
T704
TP709
IC701
X702 6MHz B.P.F
T751 SIF INPUT TRANSFOMER
IC751
SIF LIMITER AMP
FM DET
T752 SIF DET
X703 6MHz TRAP
VIDEO AMP
BLACK NOISE CLIPER
TP707
Q701 NOISE CANCELLER
Q703 EMITTER FOLLOWER
Q702 VIDEO AMP
TP711
TP710
AUDIO DEF Ⓗ ON
Q7006
R755
AUDIO OUT
SOUND DEF
P701 5
VIDEO OUT
P701 2
AUDIO DEF. Ⓗ
P704 11
AFC DEF. Ⓛ
P704 10
DEMODULATOR SECTION
BU Ⓗ
P704 6
BT
P704 1
P7501 1
BT
BT: (DC 0V~30V)
AFC DEF. Ⓛ
P7501 10
AUDIO DEF. Ⓗ
P7501 11
+45V
P7506 3
P7501 6
BU Ⓗ
HIGH IMPEDANCE (WHILE BT DATA IS PUTTING OUT, LOW INPEDANCE)
(NON VOLALTILIZE MEMORY)
IC7502
DO1
DO2
DO3
VSS
VMM
PCLR
DOØ
DAØ
DA1
DA2
DA3
CE
P7506 1
REG +6V
P7507 1
AC 40V
D7522, 7524
Q7511, 7515
-30V REG.
RESET Ⓗ
(BT DATA IS READED AT RISING EDGE OF CE IN THE NON VOLALTILIZE MEMORY)
Q7508 (BUFFER)
P7503-2
SERIAL I/O
P7503-1
SERIAL CLOCK
TUNER DATA
17.31mSec.
PØ0
PØ1
PØ2
PØ3
P11
BT DATA OUT
SBO SERIAL OUT
SBI SERIAL IN
SBT SERIAL CLOCK
P50
P51
RST
CH DATA IN
OSC1
OSC2
(4.1MHz)
X7503
PB3
PB2
PB1
PBØ
PA3
PA1
BT DATA IN
AFC ON-Ⓛ LED PD1
AUDIO DEF Ⓗ P63
AFC DEF Ⓛ P53
BAND DATA OUT
P61
P60
TDAC
TDAC OUT (TDAC: TUNING DIGITAL ANALOG CONVERTER)
IC7501 (MN1512VTD)
PO2 SCAN PULSE
0.4mSec.
8mSec.
(WHEN ONE OF KEY IS PRESSED, PO2 SCAN PULSE IS FEED BACK TO PBØ, PA3, AND PA1 OF IC7501)
AFC
SW7512
FINE UP
SW7518
FINE DOWN
SW7519
KEY SECTION
IC7506
AFC Ⓛ ON
Q7519
+6V
AFC LED
R7544 CH. TUNING VR
Q7517, 7518 D7525
REGURATOR
+30V
TP7506
CH TUNING DATA OUT
+5V
R7583
MCP RESET
0V~30V (BARIABLE)
BT
+30V
RESET Ⓗ
C7519
C7520
C7522
L.P.F
VOLTAGE COMPARATOR
LEADING DETECTOR
IC7505
BAND SELECTOR
DELAY
BU
RST
30Vp-p
BAND DATA IN
SYNTHESIZER TUNING SECTION
VIDEO LOOP
AUDIO LOOP
BT CONTROL LOOP
BT DATA TRANSMISSION LOOP

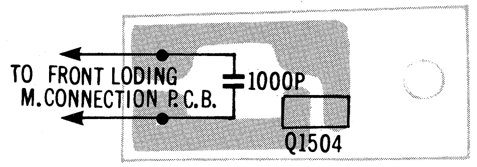
INFRARED TRANSMITTER BLOCK DIAGRAM



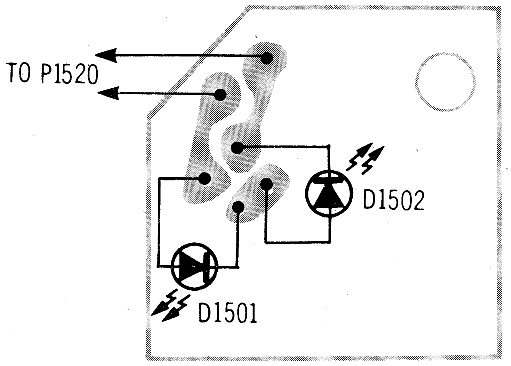

STOP
REW
FF
REV
CUE
PAUSE
REC
PLAY
STILL /ADV.
SLOW
CH 1
CH 2
CH 3
CH 4
CH 5
CH 6
CH 7
CH 8
CH 9
CH 10
CH 11
CH 12
CH 13
CH 14
CH 15
CH 16
VTR
CH-UP
SLOW +
SLOW −
21
20
19
18
17
16
15
14
11BIT LUTCH REGISTER
KEY MATRIX CONTROL
PULSE GENERATOR
35KHz CARRIER
11BIT PULSE
TIMING PULSE GENERATOR
MODULATOR
9
8
12
13
10
11
6
7
4
5
OSC
IC 1
X1001
420KHz
35KHz
OUT PUT PULSE
Q1, Q2
LED DRIVE (INFRA RED)
D1
D2
INFRA RED
D3 RED
Q3
LED DRIVE (RED)
ON/OFF SW

SMALL CIRCUIT BOARD

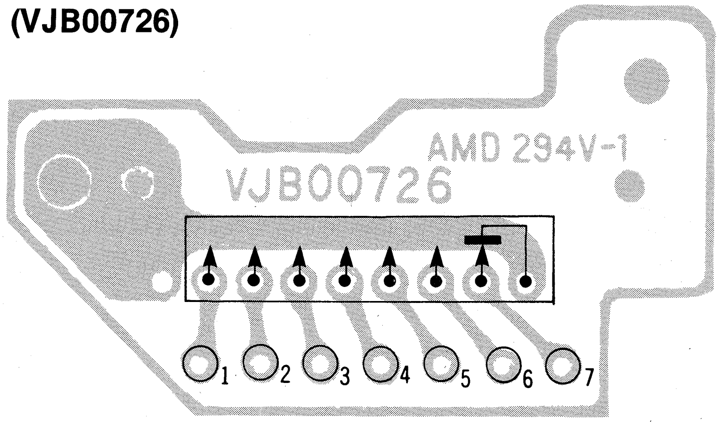
TAKE-UP PHOTO SENSOR P.C.B. (VJB00636)


TO FRONT LODING
M.CONNECTION P.C.B.
1000P
Q1504

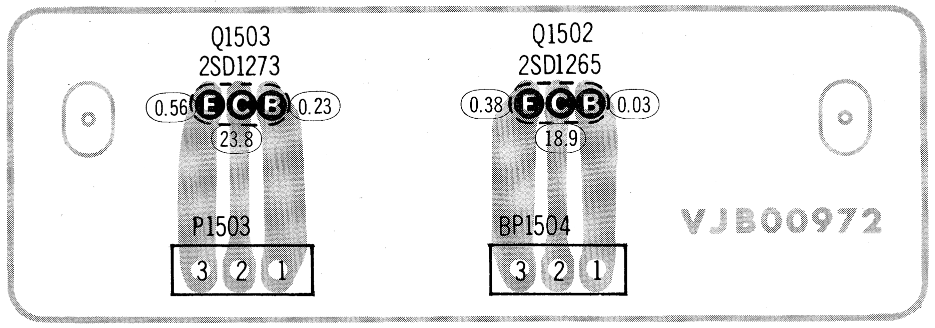
SENSOR LED P.C.B. (VJB00639)


TO P1520
D1502
D1501

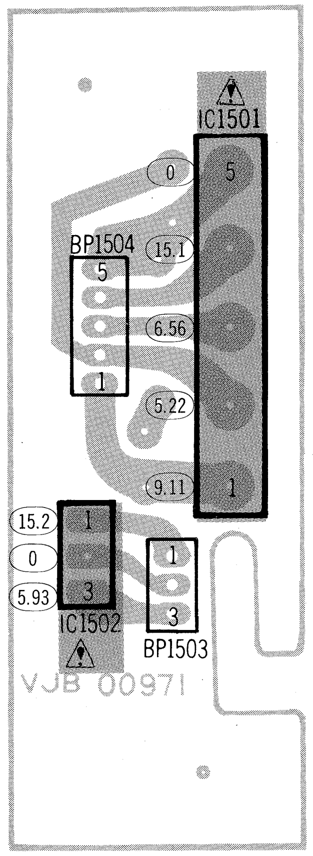
MODE SELECT SWITCH P.C.B. (VJB00726)


AMD 294V-1
VJB00726
1
2
3
4
5
6
7

REEL MOTOR HEATSINK P.C.B. (VJB00972)


Q1503
2SD1273
0.56
E
C
B
0.23
23.8
P1503
3
2
1
Q1502
2SD1265
0.38
E
C
B
0.03
18.9
BP1504
3
2
1
VJB00972

POWER IC HEATSINK P.C.B. (VJB00971)


IC1501
5
1
0
15.1
6.56
5.22
9.11
BP1504
5
1
15.2
0
5.93
1
3
IC1502
1
3
BP1503
VJB 00971

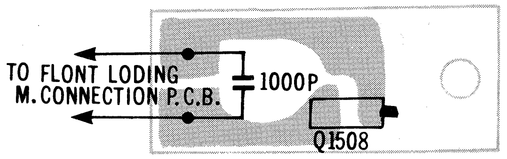
BP 1503

1	UNREG 14V
2	GND
3	+6V

BP 1504

1	9V
2	5V
3	POWER OFF Ⓛ
4	UNREG 14V
5	GND

SUPPLY PHOTO SENSOR P.C.B. (VJB00744)


TO FLONT LODING
M.CONNECTION P.C.B.
1000P
Q1508

MOTOR CONNECTION P.C.B. (VJB00968)

P003

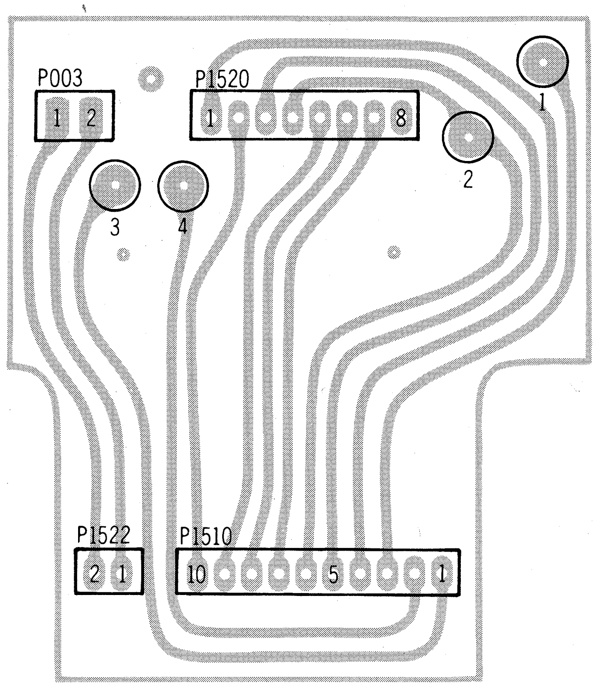
1	AC 17V
2	AC 17V

P1522

1	AC 17V
2	AC 17V

P1520

1	LED ⊕
2	GND (LED)
3	Vcc (+9V)
4	GND
5	T_2
6	T_1
7	S_1
8	—


P003
1 2
P1520
1
8
1
2
3
4
P1522
2 1
P1510
10
5
1

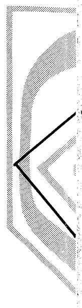
P1510

1	LOD Ⓜ ⊖
2	LOD Ⓜ ⊕
3	DEW SNS
4	SNS LED
5	+9V
6	GND
7	PEEL SUP1
8	PEEL KAC1
9	PEEL KAC2
10	GND (LED)

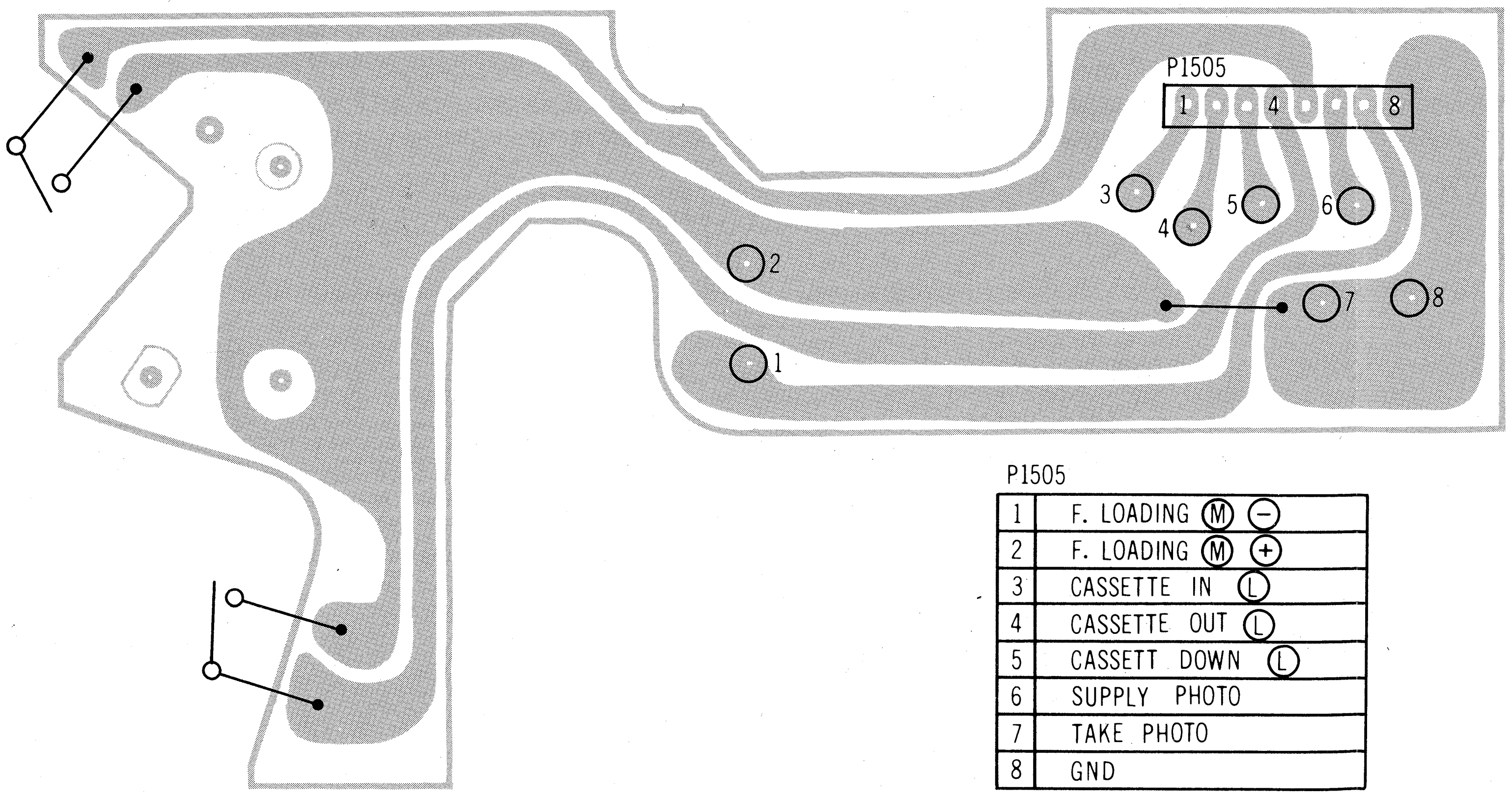
3	LOD Ⓜ ⊖	①
4	LOD Ⓜ ⊕	②

1	DEW SNS	①
2	GND	②

REEL



FRONT LOADING MOTOR CONNECTION P.C.B. (VJB00969)


P1505
1
4
8
1
2
3
4
5
6
7
8

P1505

1	F. LOADING Ⓜ ⊖
2	F. LOADING Ⓜ ⊕
3	CASSETTE IN Ⓛ
4	CASSETTE OUT Ⓛ
5	CASSETT DOWN Ⓛ
6	SUPPLY PHOTO
7	TAKE PHOTO
8	GND

B. (VJB00971)

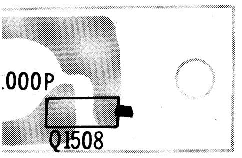
BP 1503

1	UNREG 14V
2	GND
3	+6V

BP 1504

1	9V
2	5V
3	POWER OFF Ⓛ
4	UNREG 14V
5	GND

SENSOR P.C.B.



MOTOR CONNECTION P.C.B. (VJB00968)

P003

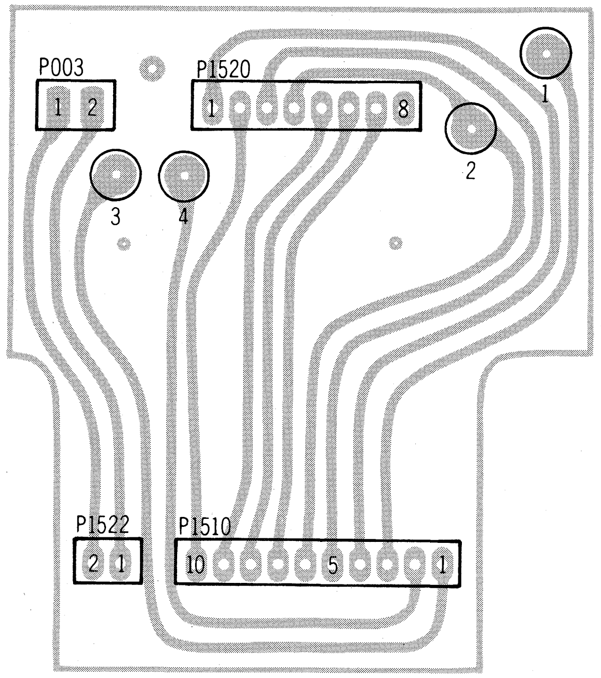
1	AC 17V
2	AC 17V

P1522

1	AC 17V
2	AC 17V

P1520

1	LED ⊕
2	GND (LED)
3	Vcc (+9V)
4	GND
5	T_2
6	T_1
7	S_1
8	—


P003
1
2
P1520
1
8
1
2
3
4
P1522
2
1
P1510
10
5
1

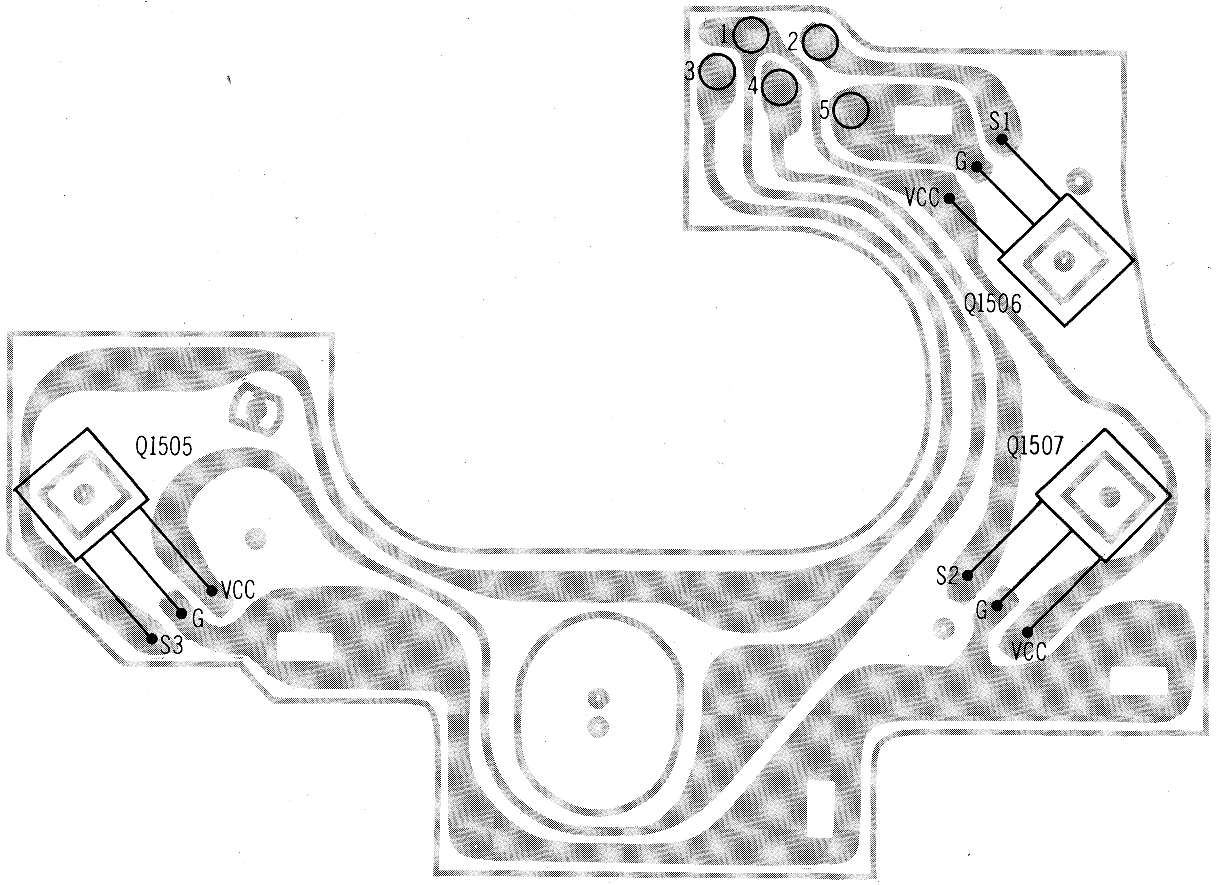
P1510

1	LOD Ⓜ ⊖
2	LOD Ⓜ ⊕
3	DEW SNS
4	SNS LED
5	+9V
6	GND
7	PEEL SUP1
8	PEEL KAC1
9	PEEL KAC2
10	GND (LED)

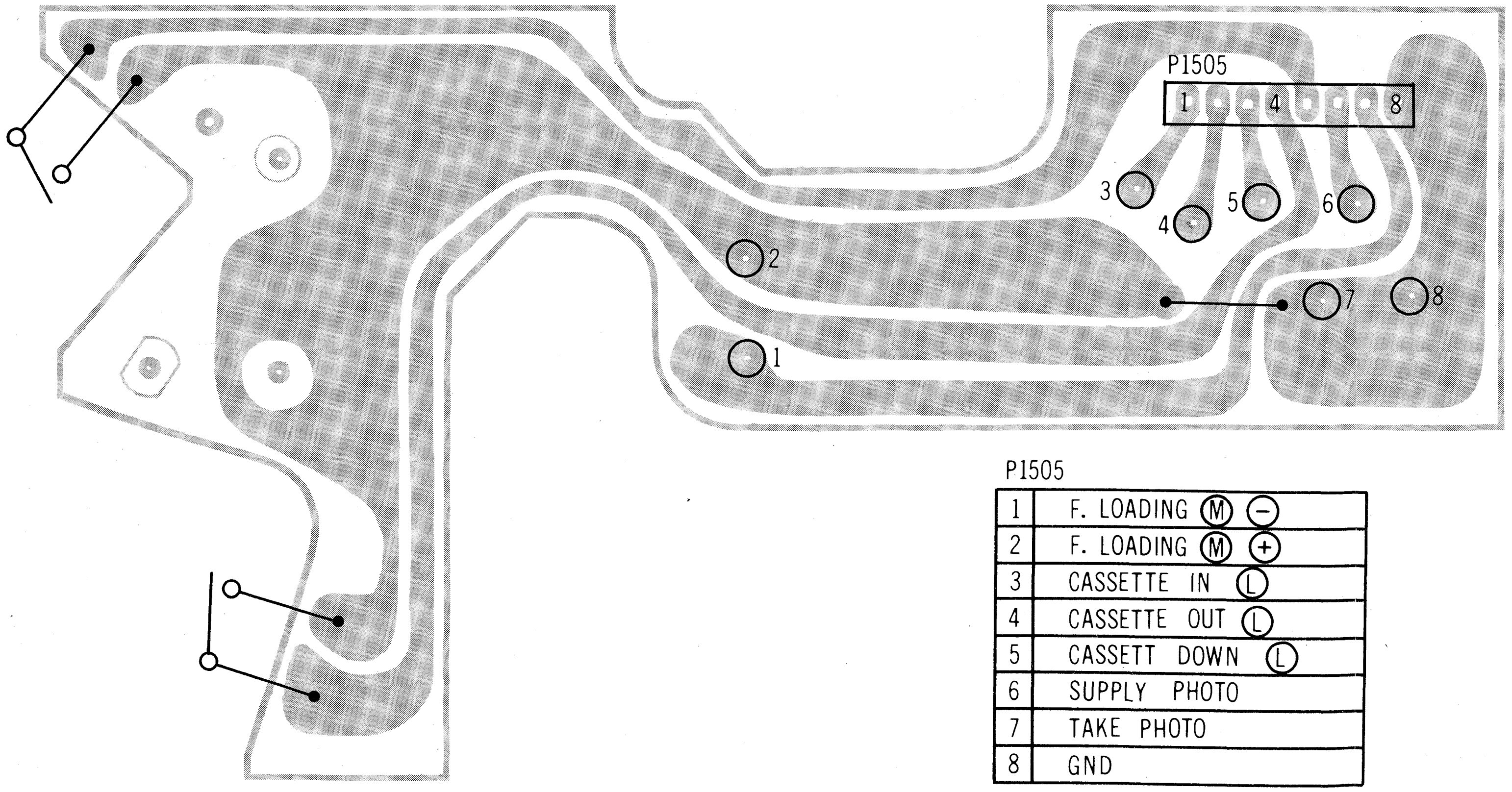
3	LOD Ⓜ ⊖	①
4	LOD Ⓜ ⊕	②

1	DEW SNS	①
2	GND	②

REEL SENSOR P.C.B. (VJB00970)


1
2
3
4
5
S1
G
VCC
Q1506
Q1505
Q1507
VCC
G
S3
S2
G
VCC

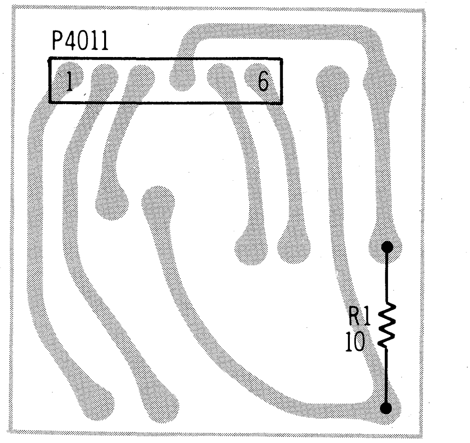
FRONT LOADING MOTOR CONNECTION P.C.B. (VJB00969)


P1505
1
4
8
3
4
5
6
2
7
8
1

P1505

1	F. LOADING Ⓜ ⊖
2	F. LOADING Ⓜ ⊕
3	CASSETTE IN Ⓛ
4	CASSETTE OUT Ⓛ
5	CASSETT DOWN Ⓛ
6	SUPPLY PHOTO
7	TAKE PHOTO
8	GND

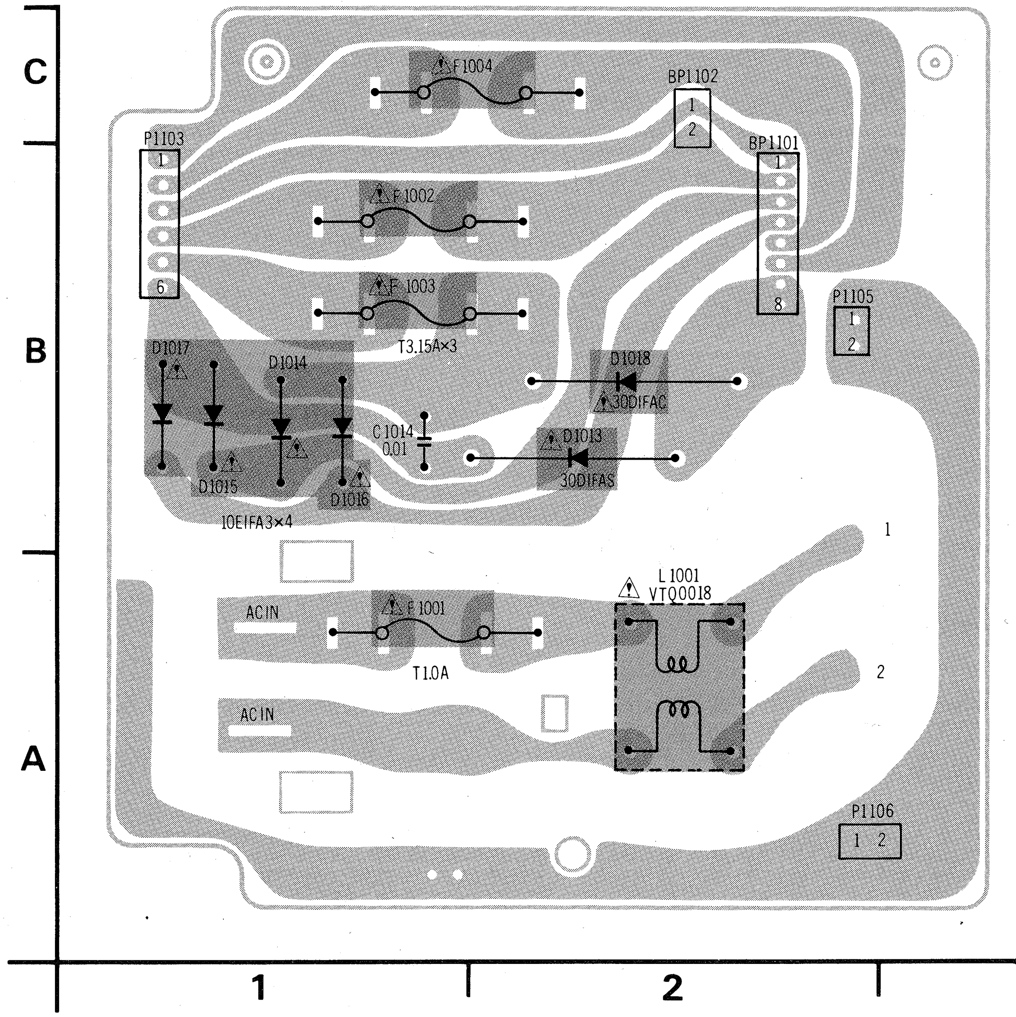
A/C HEAD P.C.B.


P4011
1
6
R1
10

P4011

1	CTL HEAD (−)	P2006 - 1
2	CTL HEAD (+)	P2006 - 2
3	AUDIO H. (R)	P4002 - 1
4	AUDIO H. (W)	P4002 - 3
5	AE HEAD (+)	P4002 - 5
6	AE HEAD (−)	P4002 - 4

A.C. BOARD (VEP01108A)


C
B
A
1
2
3
P1103
F1004
BP1102
BP1101
F1002
F1003
T3.15A×3
P1105
D1017
D1014
D1018
30D1FAC
C1014
0.01
D1013
30D1FAS
D1015
D1016
10E1FA3×4
AC IN
F1001
T1.0A
L1001
VTQ0018
AC IN
P1106

BP1101	
1	AC 17V
2	AC 17V
3	UNREG 18V
4	UNREG 18V
5	AC 12V
6	AC 12V
7	GND
8	GND

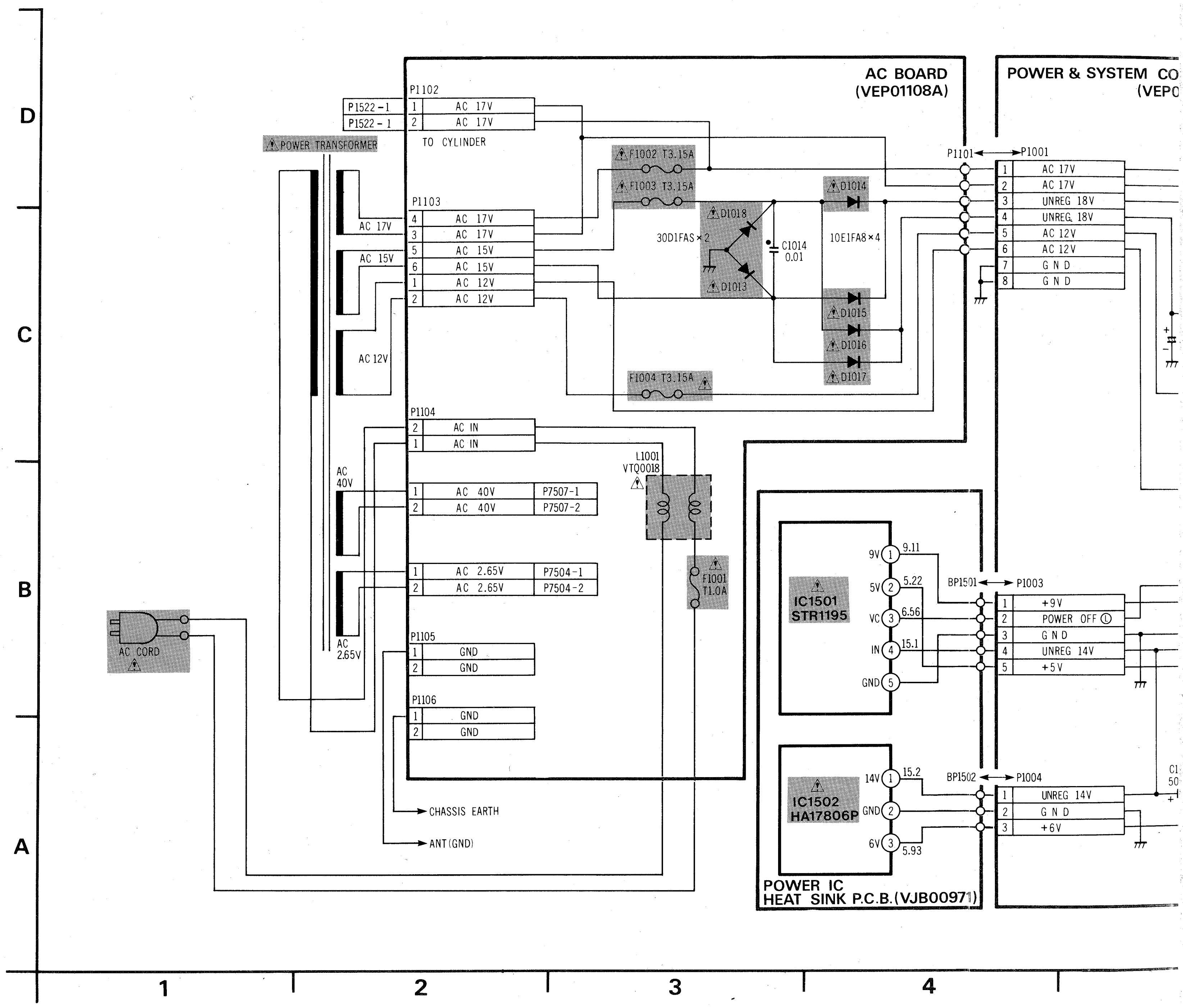
BP1102	
1	AC 17V
2	AC 17V

P1103	
1	AC 12V
2	AC 12V
3	AC 17V
4	AC 17V
5	AC 15V
6	AC 15V

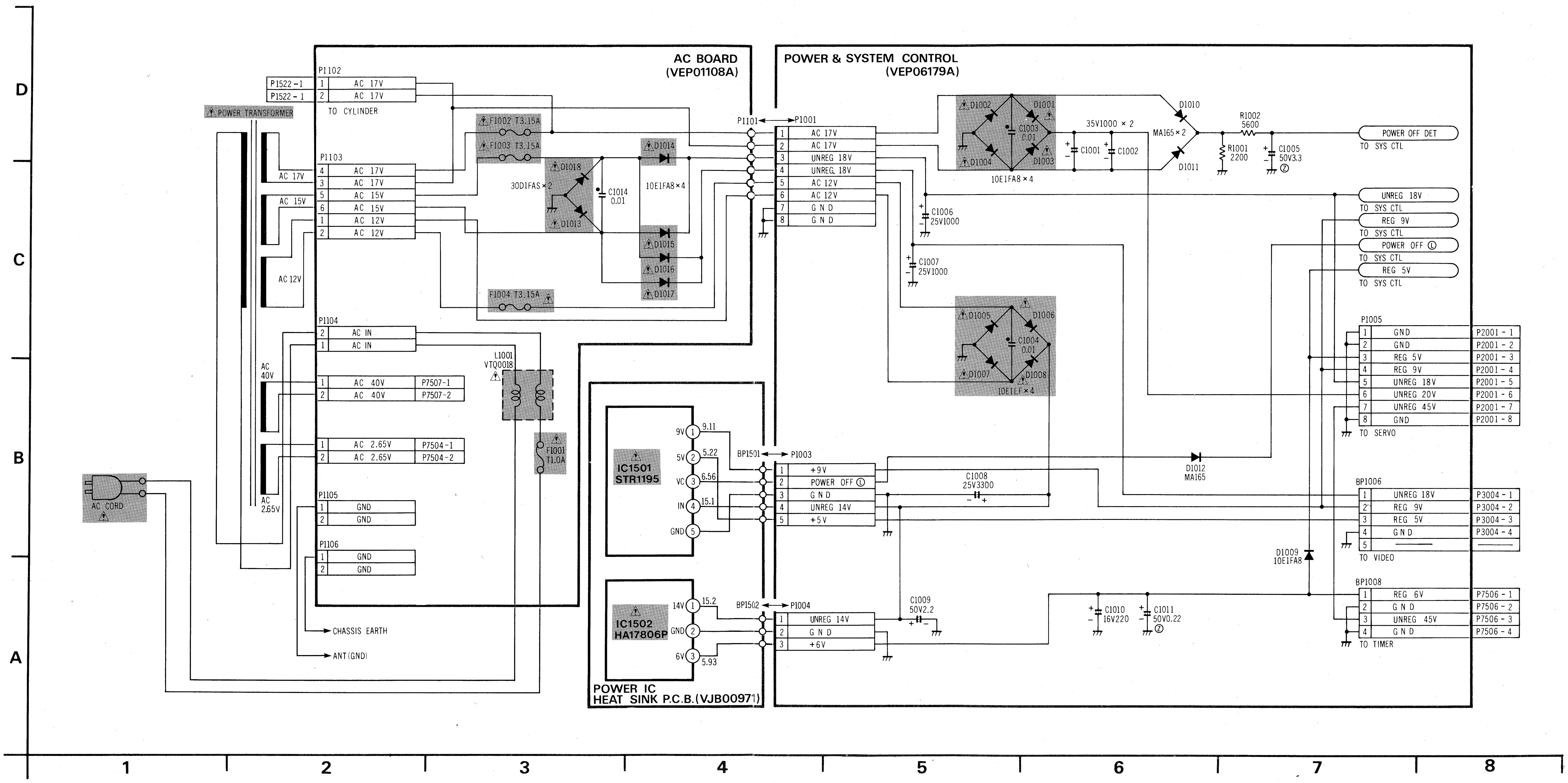
P1105	
1	GND
2	GND

P1106	
1	GND
2	GND

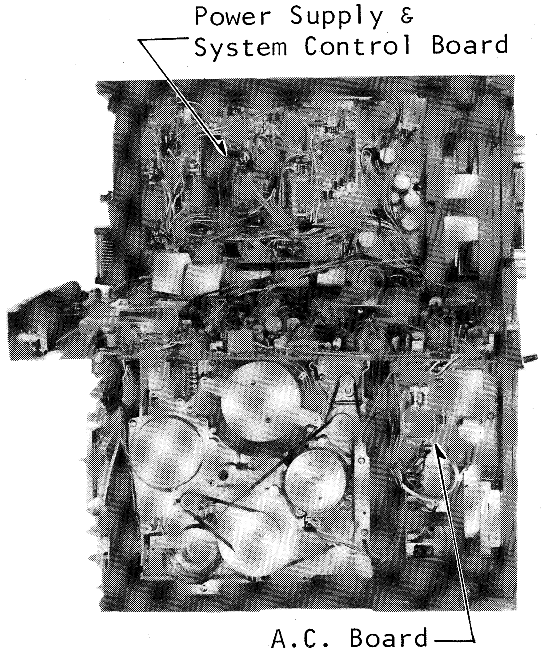
A.C. & POWER SUPPLY SCHEMATIC DIAGRAM


AC BOARD
(VEP01108A)
POWER & SYSTEM CO
(VEP
D
C
B
A
1
2
3
4
P1102
P1522-1
P1522-1
AC 17V
AC 17V
TO CYLINDER
POWER TRANSFORMER
P1103
AC 17V
AC 15V
AC 12V
F1002 T3.15A
F1003 T3.15A
D1018
30D1FAS×2
D1013
C1014
0.01
D1014
10E1FA8×4
D1015
D1016
D1017
F1004 T3.15A
P1101
P1001
AC 17V
AC 17V
UNREG 18V
UNREG 18V
AC 12V
AC 12V
GND
GND
P1104
AC IN
AC IN
AC 40V
P7507-1
P7507-2
AC 2.65V
P7504-1
P7504-2
L1001
VTQ0018
F1001
T1.0A
AC CORD
P1105
GND
GND
P1106
GND
GND
CHASSIS EARTH
ANT(GND)
IC1501
STR1195
9V
5V
VC
IN
GND
9.11
5.22
6.56
15.1
BP1501
P1003
+9V
POWER OFF ①
GND
UNREG 14V
+5V
IC1502
HA17806P
14V
GND
6V
15.2
5.93
BP1502
P1004
UNREG 14V
GND
+6V
POWER IC
HEAT SINK P.C.B.(VJB00971)

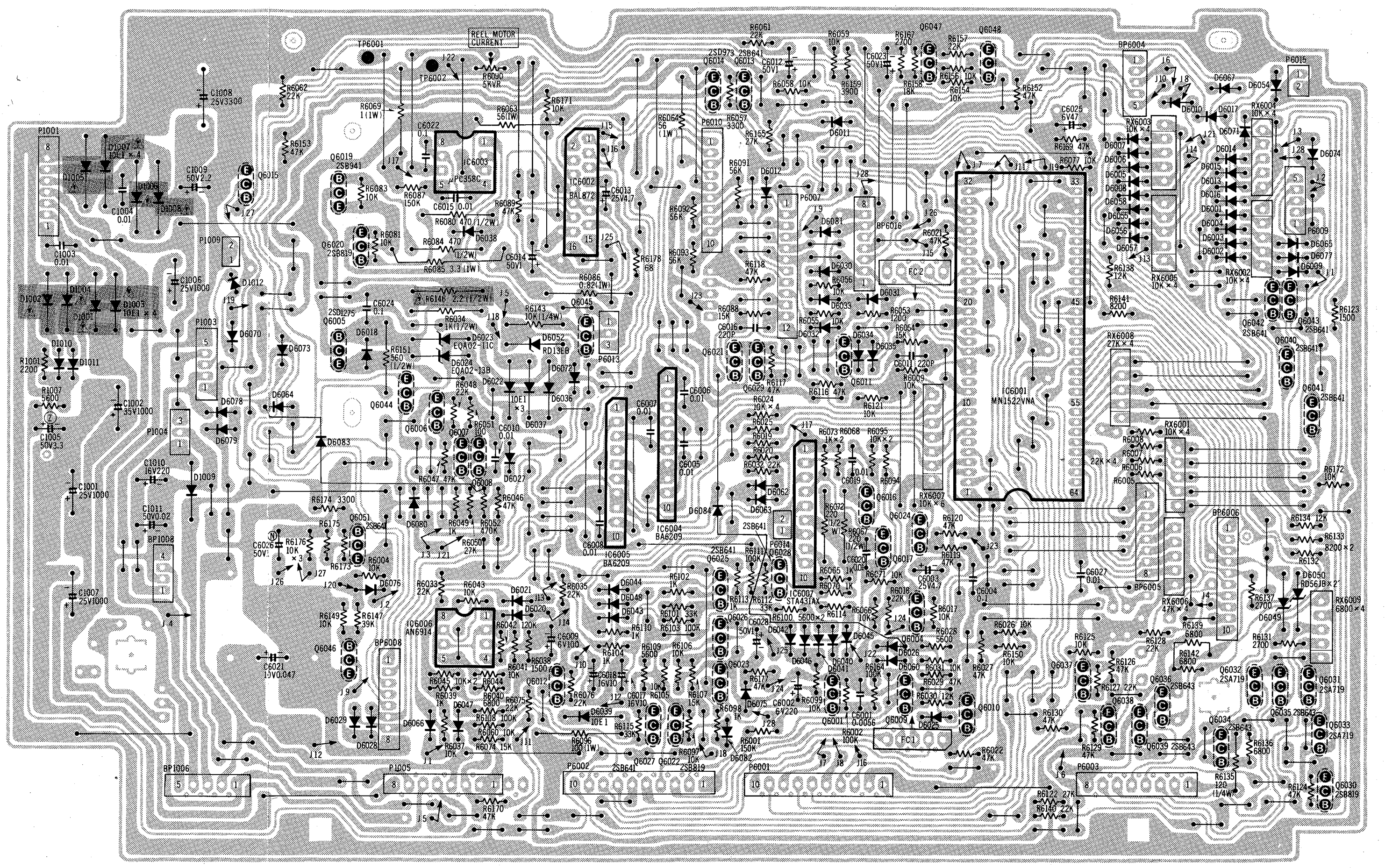
A.C. & POWER SUPPLY SCHEMATIC DIAGRAM


AC BOARD
(VEP01108A)
POWER & SYSTEM CONTROL
(VEP06179A)
POWER IC
HEAT SINK P.C.B.(VJB00971)
POWER TRANSFORMER
AC CORD
P1522-1
P1522-1
P1102
AC 17V
AC 17V
TO CYLINDER
P1103
AC 17V
AC 17V
AC 15V
AC 15V
AC 12V
AC 12V
AC 17V
AC 15V
AC 12V
AC 40V
AC 2.65V
P1104
AC IN
AC IN
AC 40V
AC 40V
P7507-1
P7507-2
AC 2.65V
AC 2.65V
P7504-1
P7504-2
P1105
GND
GND
P1106
GND
GND
CHASSIS EARTH
ANT(GND)
F1002 T3.15A
F1003 T3.15A
F1004 T3.15A
F1001 T1.0A
L1001 VTQ0018
D1018
D1013
30D1FAS×2
C1014 0.01
D1014
D1015
D1016
D1017
10E1FA8×4
P1101
P1001
AC 17V
AC 17V
UNREG 18V
UNREG 18V
AC 12V
AC 12V
GND
GND
D1002
D1001
D1004
D1003
C1003 0.01
10E1FA8×4
35V1000×2
C1001
C1002
D1010
D1011
MA165×2
R1002 5600
R1001 2200
C1005 50V3.3
POWER OFF DET
TO SYS CTL
C1006 25V1000
C1007 25V1000
UNREG 18V
TO SYS CTL
REG 9V
TO SYS CTL
POWER OFF ①
TO SYS CTL
REG 5V
TO SYS CTL
D1005
D1006
D1007
D1008
C1004 0.01
10E1LF×4
P1005
GND
GND
REG 5V
REG 9V
UNREG 18V
UNREG 20V
UNREG 45V
GND
TO SERVO
P2001-1
P2001-2
P2001-3
P2001-4
P2001-5
P2001-6
P2001-7
P2001-8
IC1501
STR1195
9V
5V
VC
IN
GND
9.11
5.22
6.56
15.1
BP1501
P1003
+9V
POWER OFF ①
GND
UNREG 14V
+5V
C1008 25V3300
D1012 MA165
BP1006
UNREG 18V
REG 9V
REG 5V
GND
P3004-1
P3004-2
P3004-3
P3004-4
TO VIDEO
D1009 10E1FA8
IC1502
HA17806P
14V
GND
6V
15.2
5.93
BP1502
P1004
UNREG 14V
GND
+6V
C1009 50V2.2
C1010 16V220
C1011 50V0.22
BP1008
REG 6V
GND
UNREG 45V
GND
TO TIMER
P7506-1
P7506-2
P7506-3
P7506-4
D
C
B
A
1
2
3
4
5
6
7
8

POWER SUPPLY & SYSTEM CONTROL BOARD (VEP06179A)


Power Supply &
System Control Board
A.C. Board

System Control C.B.A	
Q6001	B-5
Q6004	B-5
Q6005	D-3
Q6006	C-3
Q6007	C-3
Q6008	C-3
Q6009	B-5
Q6010	B-6
Q6011	D-5
Q6012	B-4
Q6013	E-5
Q6014	E-5
Q6015	D-3
Q6016	C-5
Q6017	C-5
Q6019	D-3
Q6020	D-3
Q6021	D-5
Q6022	B-4
Q6023	B-5
Q6024	C-5
Q6025	C-5
Q6026	B-5
Q6027	B-4
Q6028	C-5
Q6029	D-5
Q6030	B-7
Q6031	B-7
Q6032	B-7
Q6033	B-7
Q6034	B-7
Q6035	B-7
Q6036	B-7
Q6037	B-6
Q6038	B-6
Q6039	B-6
Q6040	C-7
Q6041	C-7
Q6042	D-7
Q6043	D-7
Q6044	C-3
Q6045	D-4
Q6046	B-3
Q6047	E-6
Q6048	E-6
Q6051	C-3
IC6001	C-6
IC6002	D-4
IC6003	D-3
IC6004	C-4
IC6005	C-4
IC6006	B-3
IC6007	C-5


E
D
C
B
A
1
2
3
4
5
6
7
8
TP6001
TP6002
REEL MOTOR CURRENT
IC6001
MN1522VNA
P1001
P6010
BP6004
P6015
P6009
BP6016
P6007
BP6005
BP6006
BP1006
BP6008
P1005
P6002
P6001
P6003

P6010

1	LOADING Ⓜ ⊖
2	LOADING Ⓜ ⊕
3	DEW SENSER
4	SNS. LED
5	REG 9V
6	GND
7	REEL SUPPLY
8	REEL TAKE 1
9	REEL TAKE 2
10	GND (TO LED)

P1001

1	AC 17V
2	AC 17V
3	UN REG 18V
4	UN REG 18V
5	AC 12V
6	AC 12V
7	GND
8	GND

P6013

1	REEL TR. B
2	REEL TR. C
3	REEL TR. E

P1003

1	REG 9V
2	REG 5V
3	POWER OFF Ⓛ
4	UNREG 14V
5	GND

P1004

1	UNREG 14V
2	GND
3	REG 6V

P1009

1	GND
2	GND

BP1008

1	REG 6V
2	GND
3	UNREG 45V
4	GND

P6014

1	REEL Ⓜ ⊕
2	REEL Ⓜ ⊖

BP6004

1	POWER ON/OFF
2	————
3	————
4	————
5	REVERSE PLAY Ⓛ

P6015

1	SAFETY TAB Ⓛ
2	GND

P6009

1	EJECT POS Ⓛ
2	STOP POS Ⓛ
3	FF/REW POS Ⓛ
4	2MODE POS Ⓛ
5	PLAY POS Ⓛ

BP6016

1	$\overline{\text{S.CK}}$
2	S. DATA
3	POWER ON Ⓗ
4	POWER ON Ⓛ
5	POWER OUT
6	TIMER SET ON Ⓛ
7	REG +5V
8	EJECT POS Ⓛ

P6007

1	REEL SUP
2	REEL TAK 1
3	REEL TAK 2
4	SLOW Ⓗ
5	$\overline{\text{S.CK}}$
6	S.DATA
7	COUNTER. Z. Ⓗ
8	CASSETTE. D. Ⓛ
9	RESET Ⓗ
10	DEW Ⓛ
11	SIN/OUT
12	SCK

BP6005

1	P00
2	P01
3	P02
4	P03
5	PD0
6	PD1
7	PD2
8	PD3

BP6006

1	REW Ⓛ
2	FF Ⓛ
3	PLAY Ⓛ
4	REC Ⓛ
5	A·DUB Ⓛ
6	PAUSE Ⓛ
7	SLOW Ⓛ
8	SW REG 5V
9	REG 5V
10	GND

BP1006

1	UNREG 18V
2	REG 9V
3	REG 5V
4	GND
5	————

BP6008

1	F.LOADING Ⓜ ⊖
2	F.LOADING Ⓜ ⊕
3	CASSETTE IN Ⓛ
4	CASSETTE OUT Ⓛ
5	CASSETTE DOWN Ⓛ
6	SUPPLY PHOTO
7	TAKE UP PHOTO
8	GND

P1005

1	GND
2	GND
3	REG 5V
4	REG 9V
5	UNREG 18V
6	UNREG 20V
7	UNREG 45V
8	GND

P6002

1	CYLINDER ON Ⓗ
2	CYLINDER LOCK Ⓛ
3	CAPSTAN ON Ⓛ
4	POWER STOP Ⓗ
5	CAPSTAN REV. Ⓗ
6	PAUSE Ⓗ
7	SPEED 2^3
8	SPEED 2^0
9	REVERSE PLAY Ⓛ
10	PAUSE RESET Ⓗ

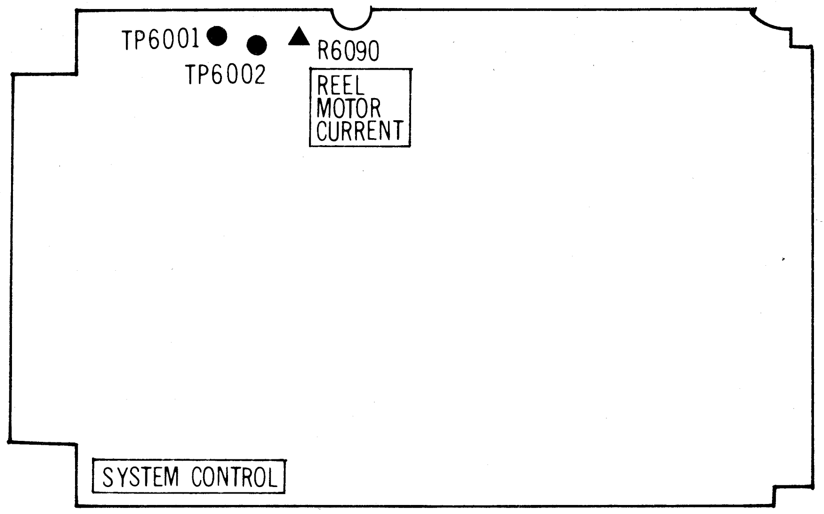
P6001

1	4.43MHz
2	GND
3	RESET Ⓛ
4	REEL Ⓜ CTL.
5	CAPSTAN TURN OVER
6	SLOW Ⓗ
7	STILL Ⓗ
8	F. ADV/SLOW Ⓗ
9	ENV. SELECT Ⓗ
10	PAUSE RESET Ⓗ

P6003

1	EE 9V
2	CAMERA PAUSE Ⓛ
3	D. REC 9V
4	REC 9V
5	AUDIO MUTE
6	A·D 9V
7	A.D & D.REC 9V
8	VTR 9V

UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636
ALL DIODES ARE MA165


TP6001
TP6002
R6090
REEL MOTOR CURRENT
SYSTEM CONTROL

SYSTEM CONTROL TRANSISTORs VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005			Q6006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.03	0.61							0	4.40	0	10.3	22.3	11.5	0	5.10	0.19
PLAY	0	0.07	0.58							0	4.38	0	10.3	20.4	11.5	0	5.10	0.19
REC	0	0.09	0.58							0	5.09	0.19	10.3	20.0	11.5	0	5.10	0.19
F.F	0	0.03	0.59							0	4.38	0	11.9	20.5	13.1	0	5.10	0.19
REW	0	0.03	0.59							0	4.38	0	11.9	20.6	13.1	0	5.10	0.19

REF. NO.	Q6007			Q6008			Q6009			Q6010			Q6011			Q6012		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0.56	0.61	1.23	0.56	1.23	0.37	0	0.03	0.61	0	5.09	0.03	0	0.85	0.20	0	4.54	0
PLAY	0.56	0.61	1.23	0.56	1.23	0.37	0	4.63	0.12	0	0.01	0.62	0	—	0.17	0	4.54	0
REC	0.56	0.61	1.23	0.56	1.23	0.37	0	4.64	0.12	0	0.01	0.62	0	—	0.20	0	4.54	0
F.F	0.56	0.61	1.23	0.56	1.23	0.37	0	0.03	0.59	0	5.09	0.03	0	—	0.17	0	4.54	0
REW	0.56	0.61	1.23	0.56	1.23	0.37	0	0.03	0.59	0	5.09	0.03	0	—	0.17	0	4.54	0

REF. NO.	Q6013			Q6014			Q6015			Q6016			Q6017			Q6018		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	9.09	−0.44	9.08	−0.67	21.7	−0.44	0	11.3	0.02	0	0.11	0.03	0	0.11	0.04			
PLAY	9.09	−0.60	9.08	−0.30	20.6	−0.60	0	11.3	0.02	0.86	0.94	1.53	0.17	2.93	0.04			
REC	9.09	−0.51	9.08	−0.50	20.3	−0.51	0	11.3	0.02	0.87	0.95	1.53	0.17	2.93	0.04			
F.F	9.09	—	9.01	1.72	19.9	—	0	12.8	0.02	0.84	1.81	1.53	0.11	8.33	0.03			
REW	9.09	—	9.01	1.70	20.1	—	0	12.8	0.02	0.11	8.32	0.03	0.84	2.26	1.53			

REF. NO.	Q6019			Q6020			Q6021			Q6022			Q6023			Q6024		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	−0.23	0	0.01	0.01	0	0	0.86	8.55	8.55	−0.28	14.6	0	15.2	0	0	0	0.60
PLAY	4.32	3.81	3.65	4.41	4.32	3.68	0	—	—	8.53	−0.31	13.8	0	14.4	0	0	0	0.60
REC	4.35	3.77	3.65	4.41	4.32	3.68	0	—	—	8.53	−0.35	13.8	0	14.4	0	0	0	0.60
F.F	9.16	9.12	8.43	9.21	9.18	8.51	0	—	—	8.33	−0.14	13.8	0	14.4	0	0	0	0.60
REW	9.04	9.01	8.33	9.12	9.07	8.39	0	—	—	8.33	−0.14	13.8	0	14.4	0	0	0	0.60

REF. NO.	Q6025			Q6026			Q6027			Q6028			Q6029			Q6030		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	8.53	−0.44	8.50	0	0	0.68	8.56	−0.57	8.51	8.56	−0.92	8.53	0	0.21	0.57	9.08	9.08	8.39
PLAY	8.53	−0.62	8.50	0	0	0.68	8.53	−0.65	8.51	8.53	−0.89	8.50	0	0.21	0.57	9.08	9.08	8.40
REC	8.53	−0.79	8.50	0	0	0.68	8.53	−0.71	8.50	8.53	−0.89	8.50	0	0.21	0.57	9.08	9.02	8.35
F.F	8.33	−0.64	8.30	0	0	0.68	8.33	8.28	7.67	8.33	−0.92	8.30	0	0.21	0.57	9.08	9.08	8.39
REW	8.33	−0.67	8.30	0	0	0.68	8.33	8.28	7.67	8.33	−0.92	8.30	0	0.21	0.57	9.08	9.08	8.39

REF. NO.	Q6031			Q6032			Q6033			Q6034			Q6035			Q6036		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	9.07	0.50	9.08	9.08	0	9.07	9.07	0.23	9.07	9.08	9.07	8.41	9.08	0	9.08	9.08	0	9.08
PLAY	9.07	0.46	9.07	9.08	0	9.07	9.07	0.18	9.07	9.08	−0.55	9.08	9.07	0	9.07	9.08	0	9.08
REC	9.02	8.94	8.37	9.02	8.70	8.29	9.02	8.92	8.31	9.08	9.06	8.41	9.02	0	9.01	9.08	0	9.06
F.F	9.07	0.50	9.07	9.07	0	9.07	9.07	0.18	9.07	9.08	9.07	8.41	9.07	0	9.07	9.08	0	9.08
REW	9.07	0.50	9.07	9.07	0	9.07	9.07	0.18	9.07	9.08	9.07	8.41	9.07	0	9.07	9.08	0	9.08

REF. NO.	Q6037			Q6038			Q6039			Q6040			Q6041			Q6042		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.01	0.61	0	5.10	0.05	9.08	0.02	9.08	5.10	0.04	5.00	5.10	−0.70	5.06	5.11	−1.40	5.07
PLAY	0	0.01	0.61	0	5.10	0.05	9.08	9.07	8.44	5.10	0.02	5.00	5.10	−0.50	5.07	5.11	−0.44	5.07
REC	0	0.01	0.61	0	5.10	0.05	9.07	0.02	9.08	5.10	−0.39	5.00	5.10	−1.50	5.07	5.11	−0.49	5.07
F.F	0	0.01	0.61	0	5.10	0.05	9.07	9.07	8.44	5.10	−0.39	5.00	5.10	−0.60	5.07	5.11	−0.45	5.07
REW	0	0.01	0.61	0	5.10	0.05	9.07	9.07	8.44	5.10	−0.39	5.00	5.10	−1.13	5.07	5.11	−0.90	5.07

REF. NO.	Q6043			Q6044			Q6045			Q6046			Q6047			Q6048		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	5.10	−0.70	5.07	0	0.12	0.69	15.0	22.3	15.9	−0.26	0	0	0	2.93	−0.01	0.12	0.12	0.75
PLAY	5.10	0	5.07	0	0.09	0.67	14.3	20.5	15.0	−0.27	−0.02	0	0	2.93	−0.01	0.12	0.12	0.75
REC	5.10	0.02	5.07	0	0.10	0.67	14.3	20.5	15.0	−0.25	0	0	0	2.93	−0.01	0.12	0.12	0.75
F.F	5.10	−1.20	5.07	0	2.60	0.21	14.3	20.5	15.0	−0.24	−0.01	0	0	2.93	−0.02	0.12	0.12	0.75
REW	5.10	−0.51	5.07	0	2.22	0.21	14.3	20.5	15.0	−0.25	0	0	0	2.93	−0.02	0.12	0.12	0.75

REF. NO.	Q6051		
MODE	E	C	B
STOP	5.10	0.02	5.10
PLAY	5.10	0.02	5.10
REC	5.10	0.02	5.10
F.F	5.10	0.02	5.10
REW	5.10	0.02	5.10

SYSTEM CONTROL ICs VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.77	4.99	4.99	4.99	5.00	0.09	0.09	0.09	0.10	0.28	3.13	5.03	5.03	4.47	0.87	4.39	0.10	0.10	0.10
PLAY	0	4.47	0	4.99	4.99	5.00	0.09	3.90	0.09	0.10	0.22	3.13	5.03	5.03	4.47	4.54	4.39	0.10	0.10	0.10
REC	0	4.47	4.99	4.99	4.99	5.00	0.09	3.90	0.09	0.10	0.24	3.13	5.03	5.03	4.47	—	4.39	0.10	0.10	0.10
F.F	0	4.47	4.99	4.99	4.99	5.00	0.09	3.90	0.09	0.10	0.20	3.13	5.03	5.03	4.47	—	4.39	0.10	0.10	0.10
REW	0	4.47	0	4.99	4.99	5.00	3.94	0.09	0.09	0.10	0.22	3.13	5.03	5.03	4.47	—	4.39	0.10	0.10	0.10

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	3.18	0	5.02	0.07	0.06	0.06	0.08	0.06	5.08	4.47	0.06	0.11	5.11	0.05	0.07	0.07	4.74	4.64	3.81	0.12
PLAY	0.06	0	5.02	0.06	0.06	0.06	4.56	0.06	0.05	4.47	0.06	0.11	5.11	0.05	0.07	0.07	—	—	3.79	9.07
REC	0.06	0	5.02	0.06	0.06	0.06	4.56	0.06	0.05	4.47	0.06	0.11	5.11	0.05	0.07	0.07	—	—	3.83	0.12
F.F	1.15	0	5.02	0.06	0.06	5.02	0.08	0.06	0.05	4.47	0.06	0.11	5.11	5.10	0.07	0.07	0.06	2.32	2.27	4.04
REW	1.15	0	5.02	0.06	0.06	5.02	0.08	0.06	0.05	4.47	0.06	0.11	5.11	0.05	0.07	0.07	2.31	2.27	4.10	0.11

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	9.06	9.06	9.06	0.04	0.07	9.07	0.06	3.94	0.02	3.93	4.84	4.60	4.41	4.41	0.11	0.09	0.41	0.38	5.05	5.05
PLAY	9.06	9.06	0.08	0.04	0.07	9.07	0.06	3.94	0.64	3.93	0.37	4.60	4.41	4.41	0	0.09	0.41	0.38	5.05	5.05
REC	0.10	0.09	9.06	0.04	0.07	9.07	0.06	3.94	0.74	3.93	0.37	0.36	4.35	4.41	0	0.09	0.41	0.38	5.05	5.05
F.F	0.10	9.06	9.06	0.08	0.03	0.06	8.07	0.05	1.19	0.67	0.33	4.82	4.59	4.41	4.41	0.09	0.06	0.38	0.38	5.05
REW	9.06	9.06	9.06	0.02	0.07	8.08	0.06	0.33	7.72	1.21	4.82	4.60	4.41	4.41	0	0.06	0.41	0.38	5.05	5.05

REF. NO.	IC6001			
MODE	61	62	63	64
STOP	5.05	5.05	0.36	0.36
PLAY	5.05	5.04	0.36	—
REC	5.05	5.05	0.36	1.49
F.F	5.05	5.04	0.36	0.36
REW	5.05	5.04	0.36	1.36

REF. NO.	IC6002															
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP	3.97	0.06	0.07	0.06	8.44	8.43	−0.21	0	0	0	0	0	0.97	5.10	0	15.0
PLAY	3.97	0.06	4.56	0.06	8.44	8.43	—	4.40	4.56	0.19	0.19	3.05	3.67	5.10	0	14.5
REC	3.97	0.06	4.56	0.06	8.40	8.43	—	4.40	4.56	0.19	0.19	3.05	3.67	5.10	0	14.2
F.F	3.97	5.02	0.07	0	8.22	8.22	0.02	9.65	9.38	0.50	0.50	0.53	0.96	5.10	0	14.5
REW	3.97	5.02	0.07	0.06	8.22	8.22	0.02	9.88	10.3	0.57	0.50	0.53	0.96	5.10	0	14.5

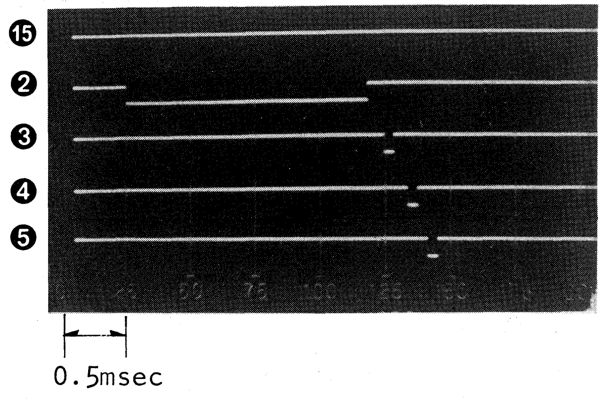
REF. NO.	IC6003								IC6004									
MODE	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9	10
STOP	0.30	0	0	0	0	0.04	0	21.8	0	0.50	0.88	0.93	0.08	0.09	10.3	10.3	0.89	0.50
PLAY	5.19	4.42	4.40	0	0.17	0.17	2.42	20.5	0	0.50	0.88	0.84	0.08	0.09	10.3	10.3	0.89	0.50
REC	5.19	4.42	4.40	0	0.17	0.17	2.42	20.3	0	0.50	0.88	0.94	0.08	0.09	10.3	10.3	0.89	0.50
F.F	9.96	9.21	9.18	0	0.12	0.03	19.7	21.0	0	0.50	0.88	0.92	0.22	0.09	11.9	11.9	0.89	0.50
REW	9.85	9.09	9.06	0	0.12	0.03	19.7	21.0	0	0.50	0.88	0.87	0.22	0.09	11.9	11.9	0.89	0.50

REF. NO.	IC6005										IC6006							
MODE	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8
STOP	0	0.51	0.86	0.93	0.10	0.10	10.3	10.3	0.92	0.51	5.11	2.87	3.03	0	3.03	2.87	5.10	5.11
PLAY	0	0.51	0.86	0.85	0.10	0.10	10.3	10.3	0.92	0.51	5.11	2.87	3.03	0	3.03	2.87	5.10	5.11
REC	0	0.51	0.86	0.97	0.10	0.10	10.3	10.3	0.92	0.51	5.11	2.87	3.03	0	3.03	2.87	5.10	5.11
F.F	0	0.51	0.86	0.93	0.10	0.10	11.9	11.9	0.92	0.51	5.11	2.87	3.03	0	3.03	2.87	5.10	5.11
REW	0	0.51	0.86	0.87	0.10	0.10	11.9	11.9	0.92	0.51	5.11	2.87	3.03	0	3.03	2.87	5.10	5.11

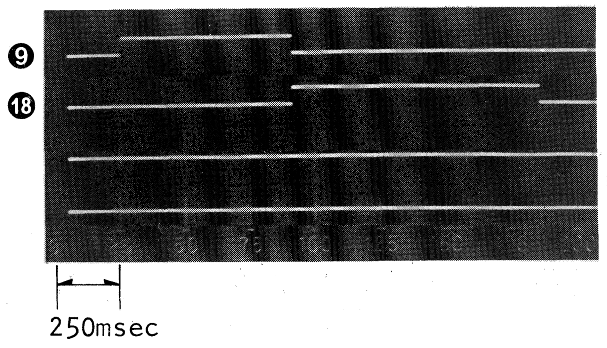
REF. NO.	IC6007									
MODE	1	2	3	4	5	6	7	8	9	10
STOP	0	0	0.16	0	0.16	0.12	0.16	0.12	0.16	0.12
PLAY	0.17	0.86	0.24	0.17	2.79	2.20	2.79	2.91	0.24	2.91
REC	0.17	0.86	0.24	0.17	2.79	2.20	2.79	2.91	0.24	2.91
F.F	0.11	0.84	0.14	0.11	8.27	7.61	8.29	8.36	0.14	8.35
REW	0.13	0.13	8.47	0.86	0.17	8.62	0.18	7.97	8.70	8.89

MICRO PROCESSOR (IC6001: MN1522VNA) MODE BY MODE TIMING CHART

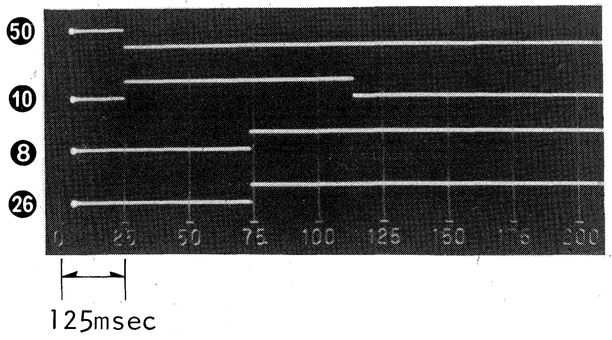
1.SYNC AND SCAN PULSES.



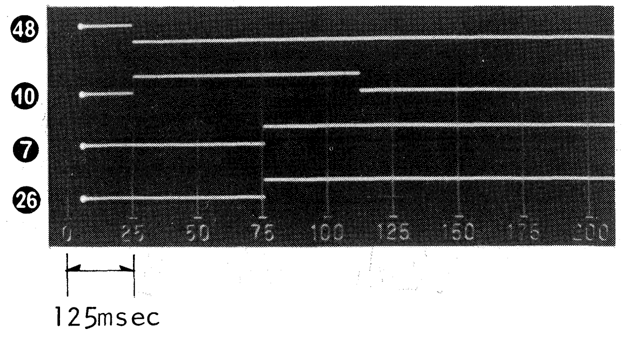
2.STOP → EJECT.



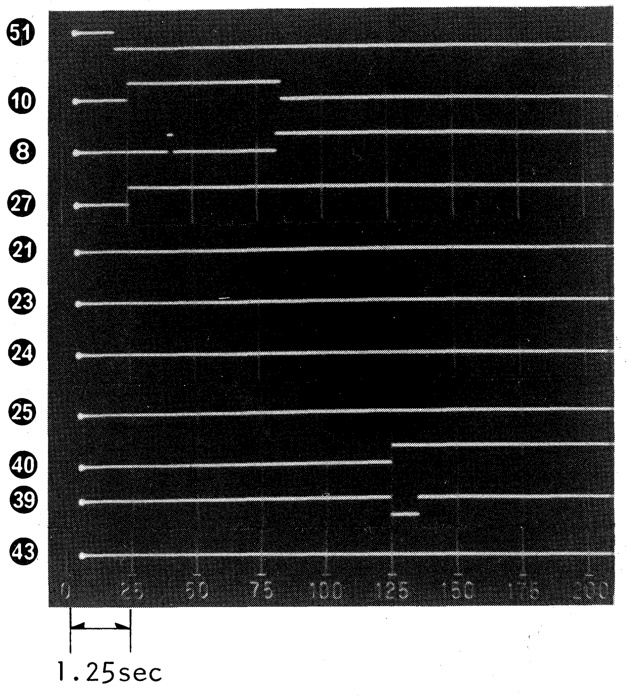
3.STOP → FF.



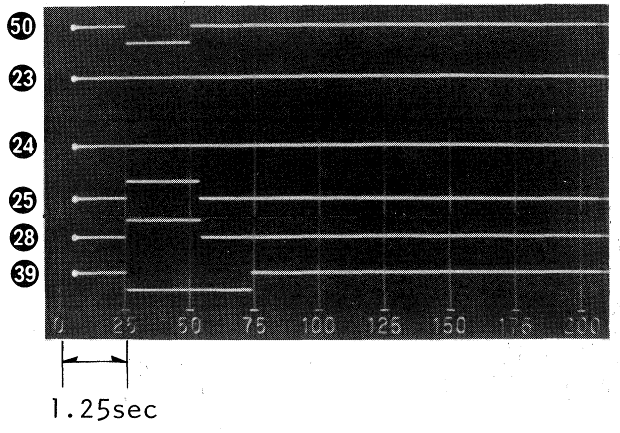
4.STOP → REW.



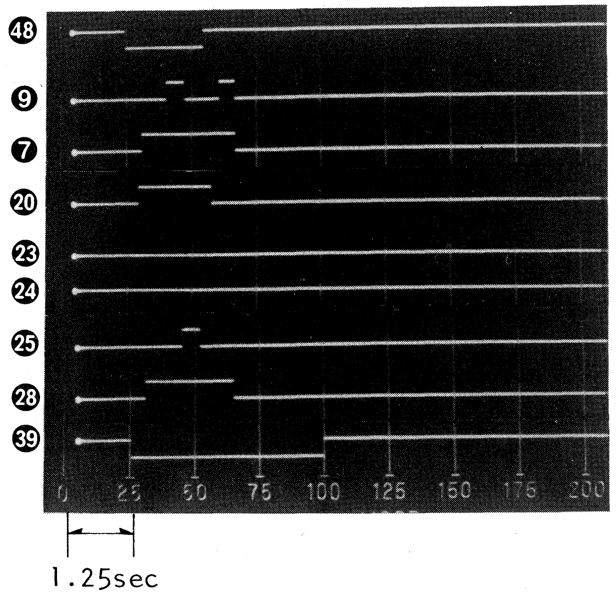
5.STOP → PLAY.



6.PLAY → CUE.

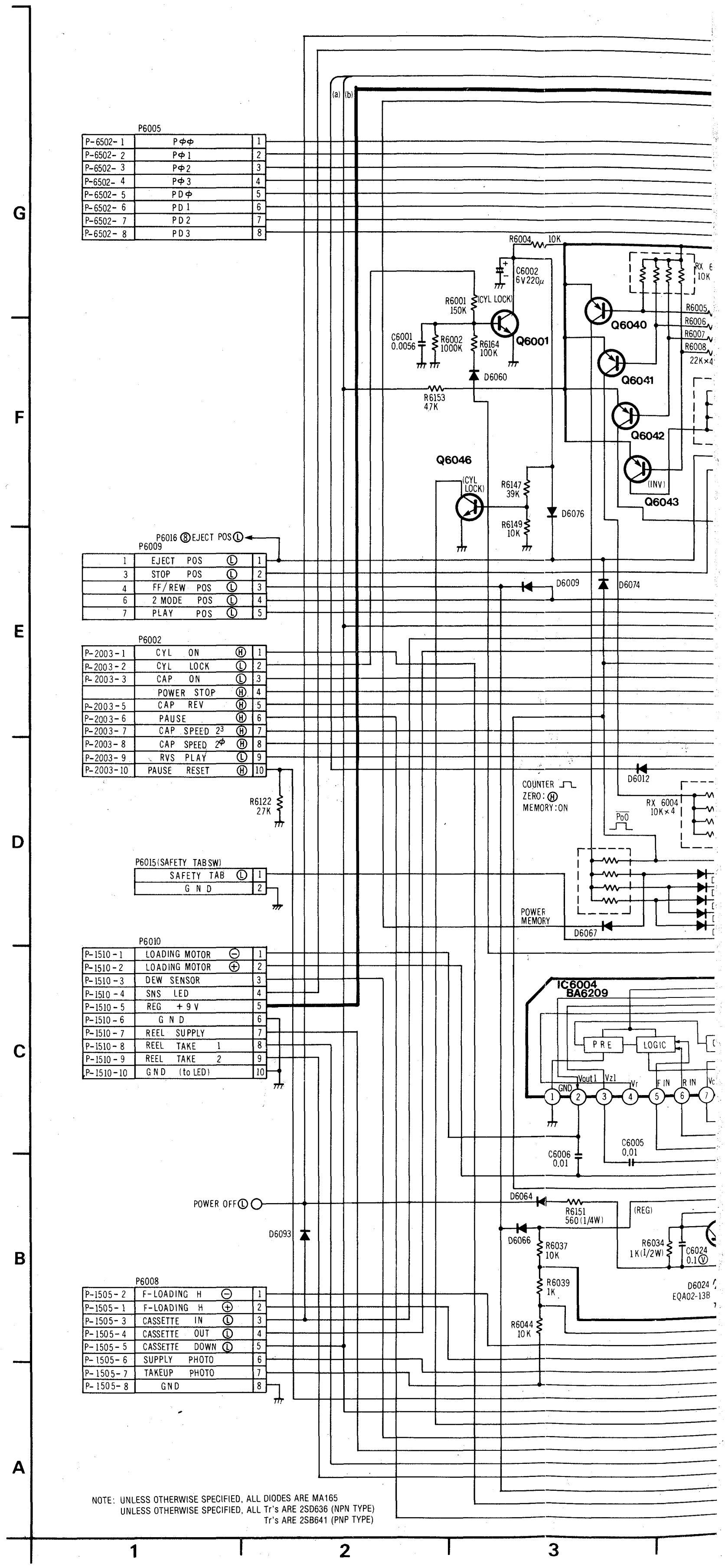


7.PLAY → REVIEW.



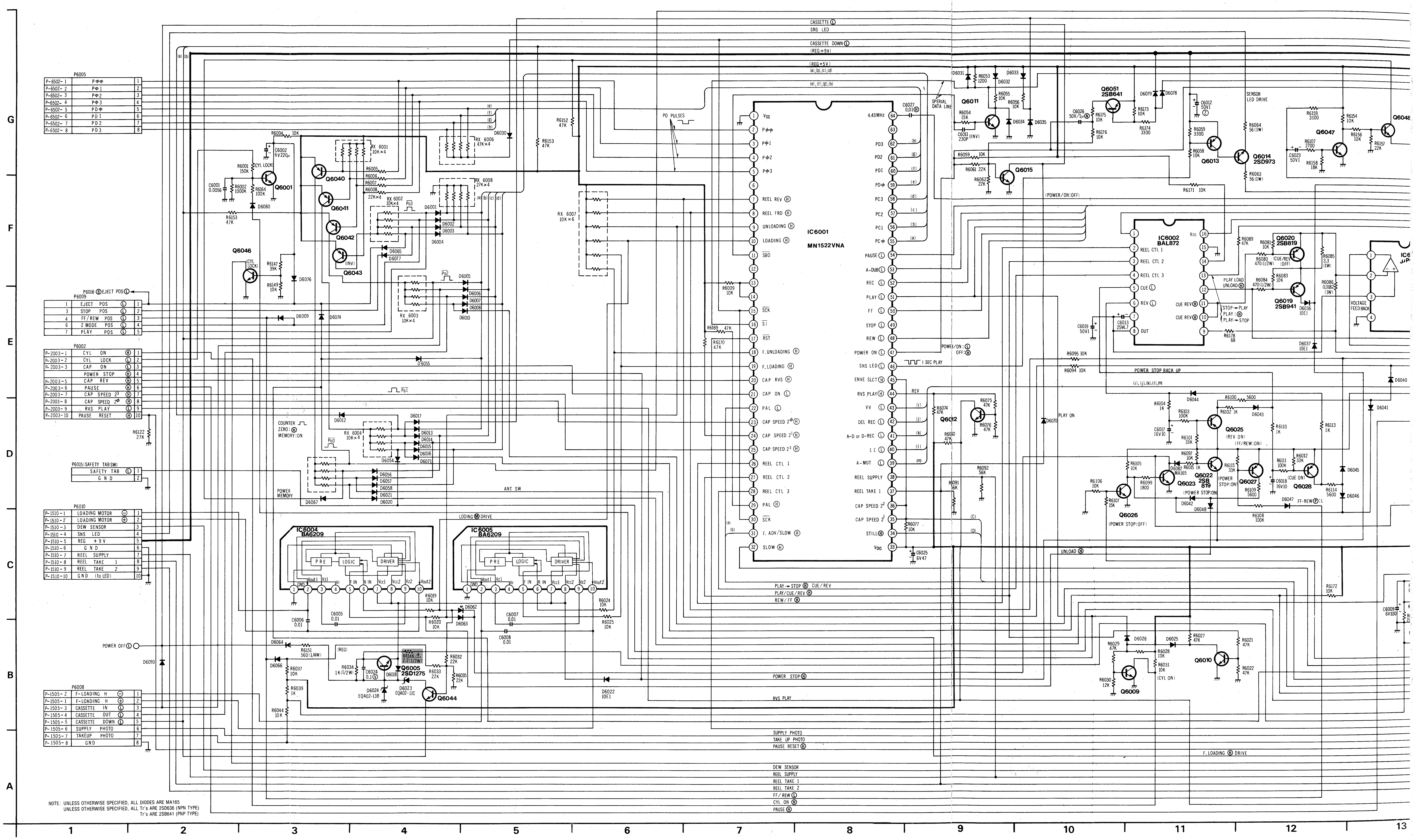
System Control			
Q6001	F-3	IC6001	F-8
Q6004	D-16	IC6002	F-11
Q6005	B-4	IC6003	E-13
Q6006	C-15	IC6004	C-3
Q6007	C-15	IC6005	C-5
Q6008	C-15	IC6006	C-14
Q6009	B-11	IC6007	G-15
Q6010	B-11		
Q6011	G-9		
Q6012	D-9		
Q6013	G-11		
Q6014	G-12		
Q6015	F-9		
Q6016	G-14		
Q6017	F-15		
Q6019	E-12		
Q6020	F-12		
Q6021	A-18		
Q6022	D-11		
Q6023	D-11		
Q6025	D-11		
Q6026	D-10		
Q6027	D-12		
Q6028	D-12		
Q6029	C-18		
Q6030	F-17		
Q6031	E-18		
Q6032	E-17		
Q6033	E-18		
Q6034	D-17		
Q6035	E-18		
Q6036	D-17		
Q6037	D-14		
Q6038	D-14		
Q6039	D-18		
Q6040	G-3		
Q6041	F-3		
Q6042	F-3		
Q6043	F-3		
Q6044	B-4		
Q6045	G-18		
Q6046	F-3		
Q6047	G-12		
Q6048	G-13		
Q6051	G-10		

SYSTEM CONTROL SCHEMATIC


G
F
E
D
C
B
A
1
2
3
(a) (b)
P6005
P-6502-1 PΦΦ 1
P-6502-2 PΦ1 2
P-6502-3 PΦ2 3
P-6502-4 PΦ3 4
P-6502-5 PDΦ 5
P-6502-6 PD1 6
P-6502-7 PD2 7
P-6502-8 PD3 8
R6004 10K
C6002 6V220μ
R6001 150K
(CYL LOCK)
Q6001
C6001 0.0056
R6002 1000K
R6164 100K
D6060
R6153 47K
Q6040
Q6041
Q6042
Q6043
(INV)
RX 6 10K
R6005
R6006
R6007
R6008
22K×4
Q6046
(CYL LOCK)
R6147 39K
R6149 10K
D6076
P6016 ⑧ EJECT POS Ⓛ
P6009
1 EJECT POS Ⓛ 1
3 STOP POS Ⓛ 2
4 FF/REW POS Ⓛ 3
6 2 MODE POS Ⓛ 4
7 PLAY POS Ⓛ 5
D6009
D6074
P6002
P-2003-1 CYL ON Ⓗ 1
P-2003-2 CYL LOCK Ⓛ 2
P-2003-3 CAP ON Ⓛ 3
POWER STOP Ⓗ 4
P-2003-5 CAP REV Ⓗ 5
P-2003-6 PAUSE Ⓗ 6
P-2003-7 CAP SPEED 2³ Ⓗ 7
P-2003-8 CAP SPEED 2⁰ Ⓗ 8
P-2003-9 RVS PLAY Ⓛ 9
P-2003-10 PAUSE RESET Ⓗ 10
R6122 27K
D6012
COUNTER
ZERO: Ⓗ
MEMORY: ON
P̄o̅0̅
RX 6004 10K×4
P6015 (SAFETY TAB SW)
SAFETY TAB Ⓛ 1
GND 2
POWER MEMORY
D6067
P6010
P-1510-1 LOADING MOTOR ⊖ 1
P-1510-2 LOADING MOTOR ⊕ 2
P-1510-3 DEW SENSOR 3
P-1510-4 SNS LED 4
P-1510-5 REG +9V 5
P-1510-6 GND 6
P-1510-7 REEL SUPPLY 7
P-1510-8 REEL TAKE 1 8
P-1510-9 REEL TAKE 2 9
P-1510-10 GND (to LED) 10
IC6004 BA6209
PRE
LOGIC
GND
Vout1
Vz1
Vr
F IN
R IN
1 2 3 4 5 6 7
C6006 0.01
C6005 0.01
POWER OFF Ⓛ
D6093
D6064
R6151 560 (1/4W)
(REG)
D6066
R6037 10K
R6034 1K (1/2W)
C6024 0.1Ⓥ
R6039 1K
D6024 EQA02-13B
R6044 10K
P6008
P-1505-2 F-LOADING H ⊖ 1
P-1505-1 F-LOADING H ⊕ 2
P-1505-3 CASSETTE IN Ⓛ 3
P-1505-4 CASSETTE OUT Ⓛ 4
P-1505-5 CASSETTE DOWN Ⓛ 5
P-1505-6 SUPPLY PHOTO 6
P-1505-7 TAKEUP PHOTO 7
P-1505-8 GND 8

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636 (NPN TYPE)
Tr's ARE 2SB641 (PNP TYPE)

SYSTEM CONTROL SCHEMATIC DIAGRAM



P6005
P-6502-1 PΦΦ 1
P-6502-2 PΦ1 2
P-6502-3 PΦ2 3
P-6502-4 PΦ3 4
P-6502-5 PDΦ 5
P-6502-6 PD1 6
P-6502-7 PD2 7
P-6502-8 PD3 8
P6016 EJECT POS
P6009
1 EJECT POS
3 STOP POS
4 FF/REW POS
6 2 MODE POS
7 PLAY POS
P6002
P-2003-1 CYL ON
P-2003-2 CYL LOCK
P-2003-3 CAP ON
POWER STOP
P-2003-5 CAP REV
P-2003-6 PAUSE
P-2003-7 CAP SPEED 2³
P-2003-8 CAP SPEED 2²
P-2003-9 RVS PLAY
P-2003-10 PAUSE RESET
P6015(SAFETY TABSW)
SAFETY TAB
GND
P6010
P-1510-1 LOADING MOTOR
P-1510-2 LOADING MOTOR
P-1510-3 DEW SENSOR
P-1510-4 SNS LED
P-1510-5 REG +9V
P-1510-6 GND
P-1510-7 REEL SUPPLY
P-1510-8 REEL TAKE 1
P-1510-9 REEL TAKE 2
P-1510-10 GND (to LED)
P6008
P-1505-2 F-LOADING H
P-1505-1 F-LOADING H
P-1505-3 CASSETTE IN
P-1505-4 CASSETTE OUT
P-1505-5 CASSETTE DOWN
P-1505-6 SUPPLY PHOTO
P-1505-7 TAKEUP PHOTO
P-1505-8 GND
POWER OFF
Q6001
Q6040
Q6041
Q6042
Q6043
Q6046
RX 6001 10K×4
RX 6002 10K×4
RX 6003 10K×4
RX 6004 10K×4
RX 6006 47K×4
RX 6007 10K×6
RX 6008 27K×4
COUNTER ZERO: MEMORY:ON
POWER MEMORY
ANT SW
LODING M DRIVE
IC6004 BA6209
IC6005 BA6209
PRE
LOGIC
DRIVER
Q6005 2SD1275
Q6044
PO PULSES
CASSETTE
SNS LED
CASSETTE DOWN
(REG+9V)
(REG+5V)
IC6001
MN1522VNA
4.43MHz
1 VSS
2 PΦΦ
3 PΦ1
4 PΦ2
5 PΦ3
7 REEL REV
8 REEL FRD
9 UNLOADING
10 LOADING
11 SBD
15 SCK
16 SI
17 RST
18 F.UNLOADING
19 F.LOADING
20 CAP RVS
21 CAP ON
22 PAL
23 CAP SPEED 2⁰
24 CAP SPEED 2¹
25 CAP SPEED 2³
26 REEL CTL 1
27 REEL CTL 2
28 REEL CTL 3
29 PAL
30 SCK
31 F. ADV/SLOW
32 SLOW
64 4.43MHz
60 PD3
61 PD2
62 PD1
59 PDΦ
58 PC3
57 PC2
56 PC1
55 PCΦ
54 PAUSE
53 A-DUB
52 REC
51 PLAY
50 FF
49 STOP
48 REW
47 POWER ON
46 SNS LED
45 ENVE SLCT
44 RVS PLAY
43 VV
42 DEL REC
41 A-D or D-REC
40 EE
39 A-MUT
38 REEL SUPPLY
37 REEL TAKE 1
36 CAP SPEED 2²
35 CAP SPEED 2
34 STILL
33 VDD
I SEC PLAY
PLAY→STOP CUE/REV
PLAY/CUE/REV
REW/FF
POWER STOP
RVS PLAY
SUPPLY PHOTO
TAKE UP PHOTO
PAUSE RESET
DEW SENSOR
REEL SUPPLY
REEL TAKE 1
REEL TAKE 2
FF/REW
CYL ON
PAUSE
SPERIAL DATA LINE
Q6011
Q6015
Q6051 2SB641
Q6013
Q6014 2SD973
Q6047
Q6048
SENSOR LED DRIVE
(POWER/ON:OFF)
IC6002 BAL872
REEL CTL 1
REEL CTL 2
REEL CTL 3
CUE
REV
OUT
CUE REV
PLAY LOAD UNLOAD
STOP→PLAY PLAY: PLAY→STOP
Q6020 2SB819
Q6019 2SB941
VOLTAGE FEEDBACK
POWER/ON: OFF:
POWER STOP BACK UP
PLAY ON
Q6012
Q6025
Q6022 2SB819
Q6023
Q6026
Q6027
Q6028
(POWER STOP:OFF)
(POWER STOP:ON)
(REV ON)
(FF/REW:ON)
(CUE ON)
FF-REW
UNLOAD
Q6009
Q6010
(CYL ON)
F. LOADING M DRIVE
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12
13

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
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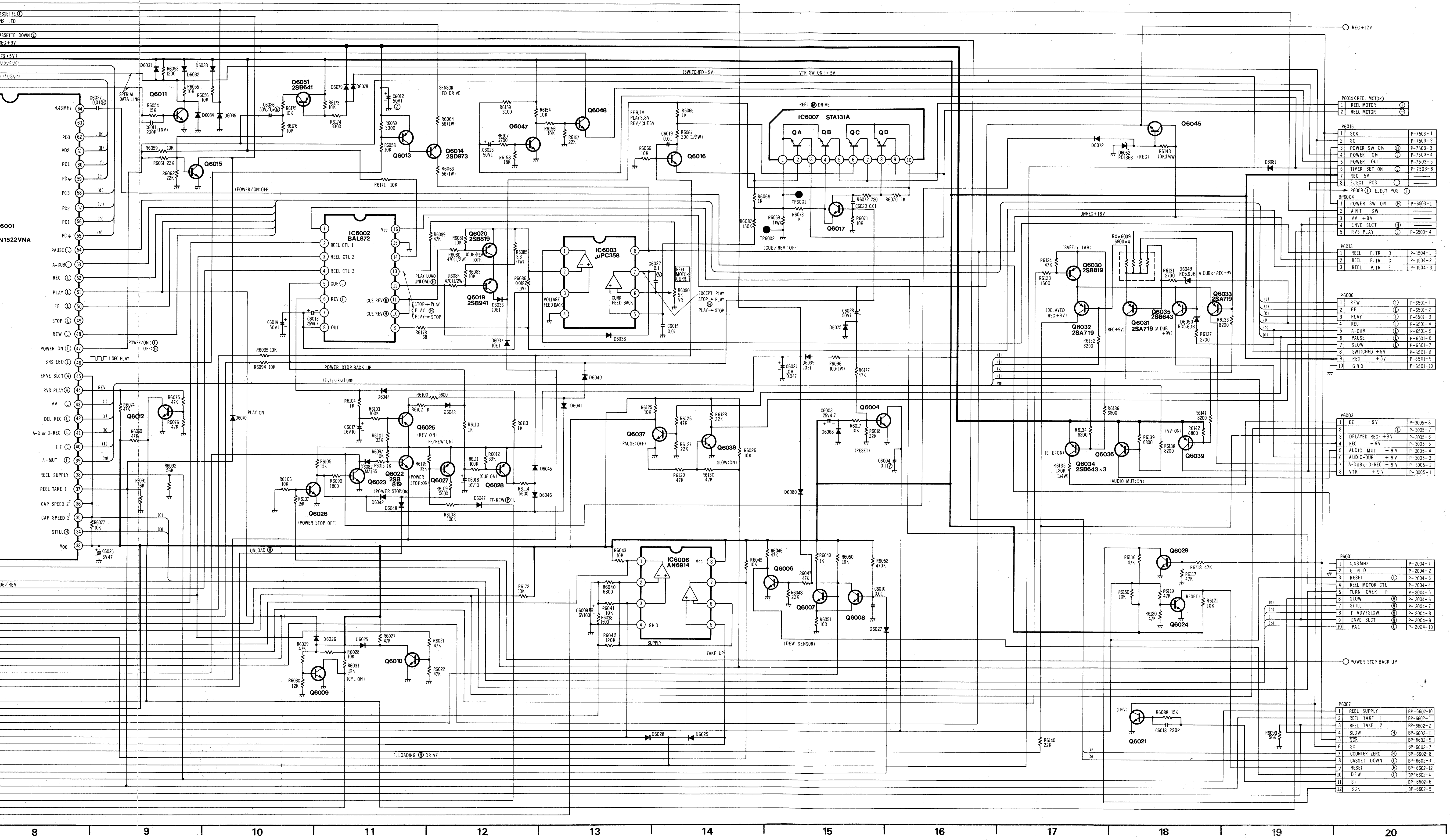
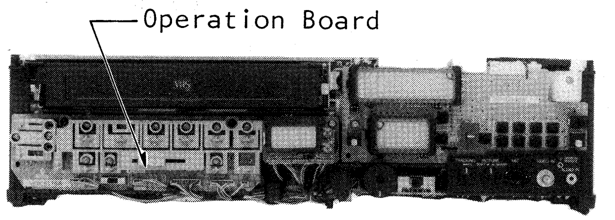
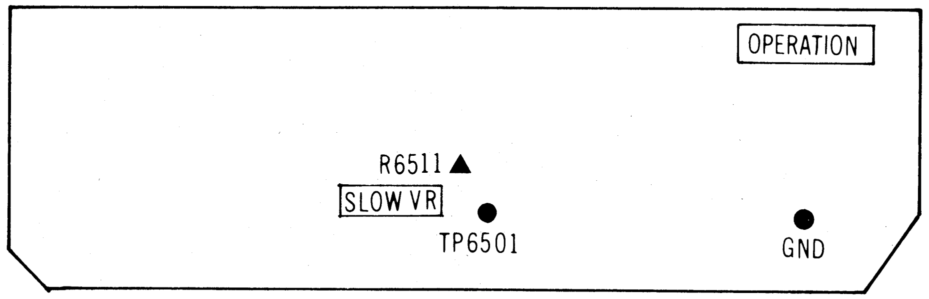
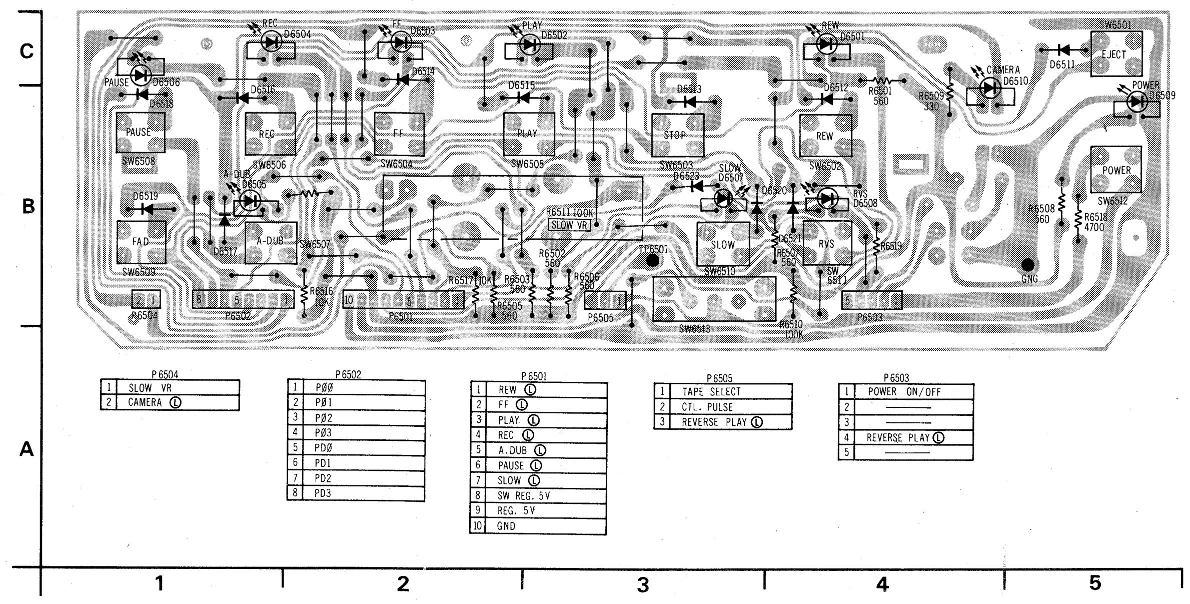
Tr's ARE 2SB641 (PNP TYPE)


6001
N1522VNA
4.43MHz
PD3
PD2
PD1
PDΦ
PC3
PC2
PC1
PCΦ
PAUSE
A-DUB
REC
PLAY
FF
STOP
REW
POWER ON
SNS LED
ENVE SLCT
RVS PLAY
VV
DEL REC
A-D or D-REC
E E
A-MUT
REEL SUPPLY
REEL TAKE 1
CAP SPEED 2
CAP SPEED 2
STILL
VDD
SPERIAL DATA LINE
Q6011
Q6015
Q6051 2SB641
SENSOR LED DRIVE
Q6013
Q6014 2SD973
Q6047
Q6048
Q6016
IC6007 STA131A
REEL DRIVE
QA
QB
QC
QD
(SWITCHED+5V)
VTR SW ON: +5V
(POWER/ON:OFF)
IC6002 BAL872
REEL CTL 1
REEL CTL 2
REEL CTL 3
CUE
REV
OUT
Vcc
Q6020 2SB819
Q6019 2SB941
PLAY LOAD UNLOAD
STOP→PLAY
PLAY→STOP
IC6003 μPC358
VOLTAGE FEED BACK
CURR FEED BACK
REEL MOTOR CURR.
EXCEPT PLAY STOP→PLAY PLAY→STOP
Q6017
TP6001
TP6002
(CUE/REV:OFF)
UNREG+18V
POWER STOP BACK UP
PLAY ON
Q6012
Q6025
(REV ON)
(FF/REW:ON)
Q6022 2SB819
Q6023
Q6027
Q6028
(CUE ON)
POWER STOP:ON
Q6026
(POWER STOP:OFF)
Q6037
(PAUSE:OFF)
Q6038
(SLOW:ON)
Q6004
(RESET)
IC6006 AN6914
SUPPLY
TAKE UP
GND
Q6006
Q6007
Q6008
(DEW SENSOR)
UNLOAD
Q6009
Q6010
(CYL ON)
F. LOADING DRIVE
Q6045
REG+12V
Q6030 2SB819
(SAFETY TAB)
Q6032 2SA719
Q6031 2SA719
Q6035 2SB643
Q6033 2SA719
A DUB or REC+9V
(DELAYED REC+9V)
(REC+9V)
Q6036
Q6034 2SB643×3
Q6039
(E-E:ON)
(VV:ON)
(AUDIO MUT:ON)
Q6029
Q6024
(RESET)
Q6021
(INV)
POWER STOP BACK UP
P6034 (REEL MOTOR)
1 REEL MOTOR
2 REEL MOTOR
P6016
1 SCK P-7503-1
2 SO P-7503-2
3 POWER SW ON P-7503-3
4 POWER ON P-7503-4
5 POWER OUT P-7503-5
6 TIMER SET ON P-7503-6
7 REG 5V
8 EJECT POS
P6009 EJECT POS
BP6004
1 POWER SW ON P-6503-1
2 ANT SW
3 VV +9V
4 ENVE SLCT
5 RVS PLAY P-6503-4
P6013
1 REEL P.TR B P-1504-1
2 REEL P.TR C P-1504-2
3 REEL P.TR E P-1504-3
P6006
1 REW P-6501-1
2 FF P-6501-2
3 PLAY P-6501-3
4 REC P-6501-4
5 A-DUB P-6501-5
6 PAUSE P-6501-6
7 SLOW P-6501-7
8 SWITCHED +5V P-6501-8
9 REG +5V P-6501-9
10 GND P-6501-10
P6003
1 EE +9V P-3005-8
2 P-3005-7
3 DELAYED REC +9V P-3005-6
4 REC +9V P-3005-5
5 AUDIO MUT +9V P-3005-4
6 AUDIO-DUB +9V P-3005-3
7 A-DUB or D-REC +9V P-3005-2
8 VTR +9V P-3005-1
P6001
1 4.43MHz P-2004-1
2 GND P-2004-2
3 RESET P-2004-3
4 REEL MOTOR CTL P-2004-4
5 TURN OVER P P-2004-5
6 SLOW P-2004-6
7 STILL P-2004-7
8 F-ADV/SLOW P-2004-8
9 ENVE SLCT P-2004-9
10 PAL P-2004-10
P6007
1 REEL SUPPLY BP-6602-10
2 REEL TAKE 1 BP-6602-1
3 REEL TAKE 2 BP-6602-2
4 SLOW BP-6602-11
5 SCK BP-6602-9
6 SO BP-6602-7
7 COUNTER ZERO BP-6602-8
8 CASSET DOWN BP-6602-3
9 RESET BP-6602-12
10 DEW BP-6602-4
11 SI BP-6602-6
12 SCK BP-6602-5
8
9
10
11
12
13
14
15
16
17
18
19
20

OPERATION BOARD (VEP06176A)


Operation Board


OPERATION
R6511 ▲
SLOW VR
TP6501
GND


C
B
A
1
2
3
4
5
SW6501
EJECT
POWER
D6509
CAMERA
D6510
D6511
REW
D6501
PLAY
D6502
FF
D6503
REC
D6504
PAUSE
D6506
D6518
SW6508
SW6504
SW6505
SW6503
SW6502
SW6512
SW6510
SW6509
SW6513
SLOW VR
R6511 100K
TP6501
GNG
A-DUB
D6505
SW6506
SW6507
FAD
D6519
D6517
D6520
D6507
RVS
D6508
R6508 560
R6518 4700
R6509 330
R6501 560
R6516 10K
R6517 10K
R6503 560
R6505 560
R6502 560
R6506 560
R6510 100K
P6504
P6502
P6501
P6505
P6503

P6504

1	SLOW VR
2	CAMERA Ⓛ

P6502

1	PØØ
2	PØ1
3	PØ2
4	PØ3
5	PDØ
6	PD1
7	PD2
8	PD3

P6501

1	REW Ⓛ
2	FF Ⓛ
3	PLAY Ⓛ
4	REC Ⓛ
5	A.DUB Ⓛ
6	PAUSE Ⓛ
7	SLOW Ⓛ
8	SW REG. 5V
9	REG. 5V
10	GND

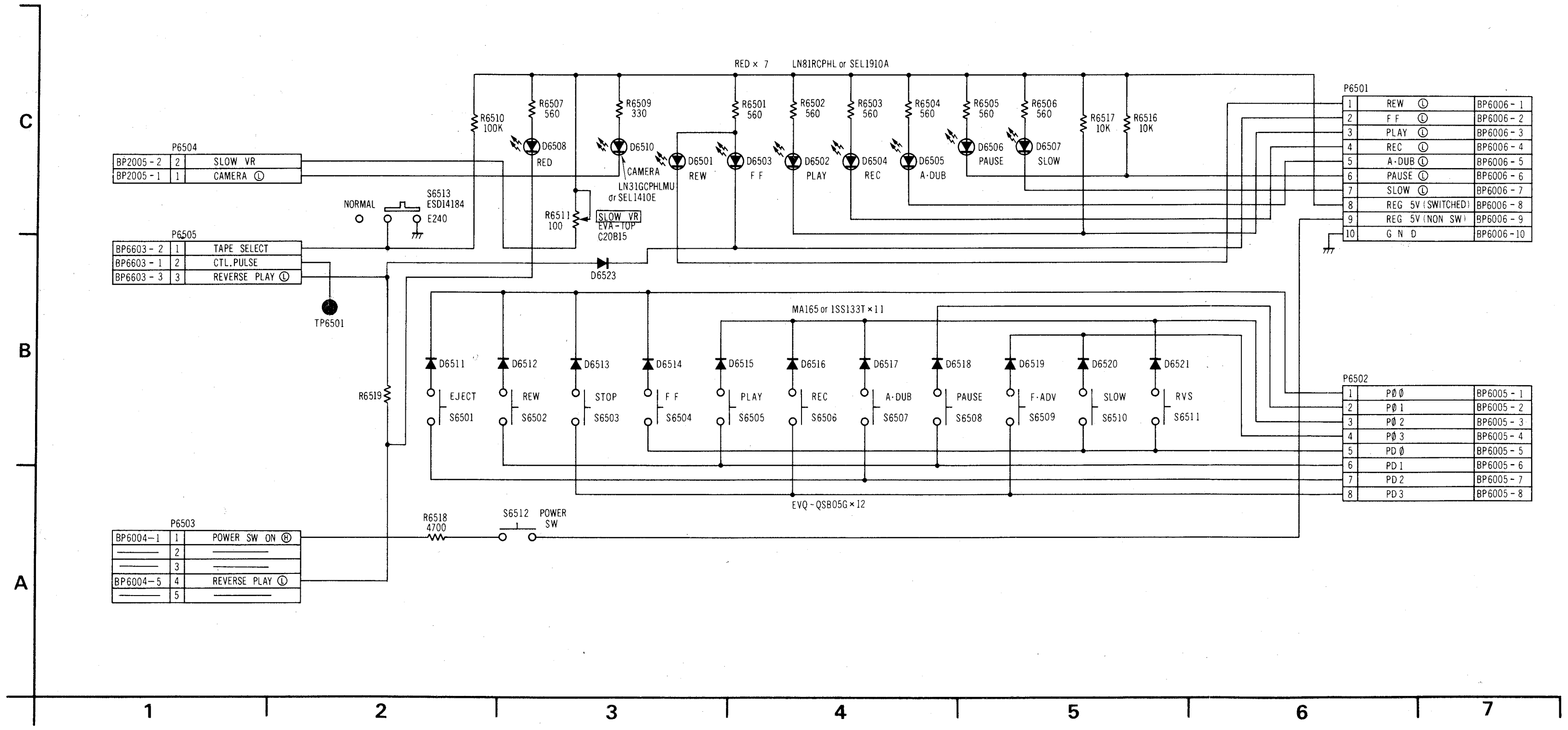
P6505

1	TAPE SELECT
2	CTL. PULSE
3	REVERSE PLAY Ⓛ

P6503

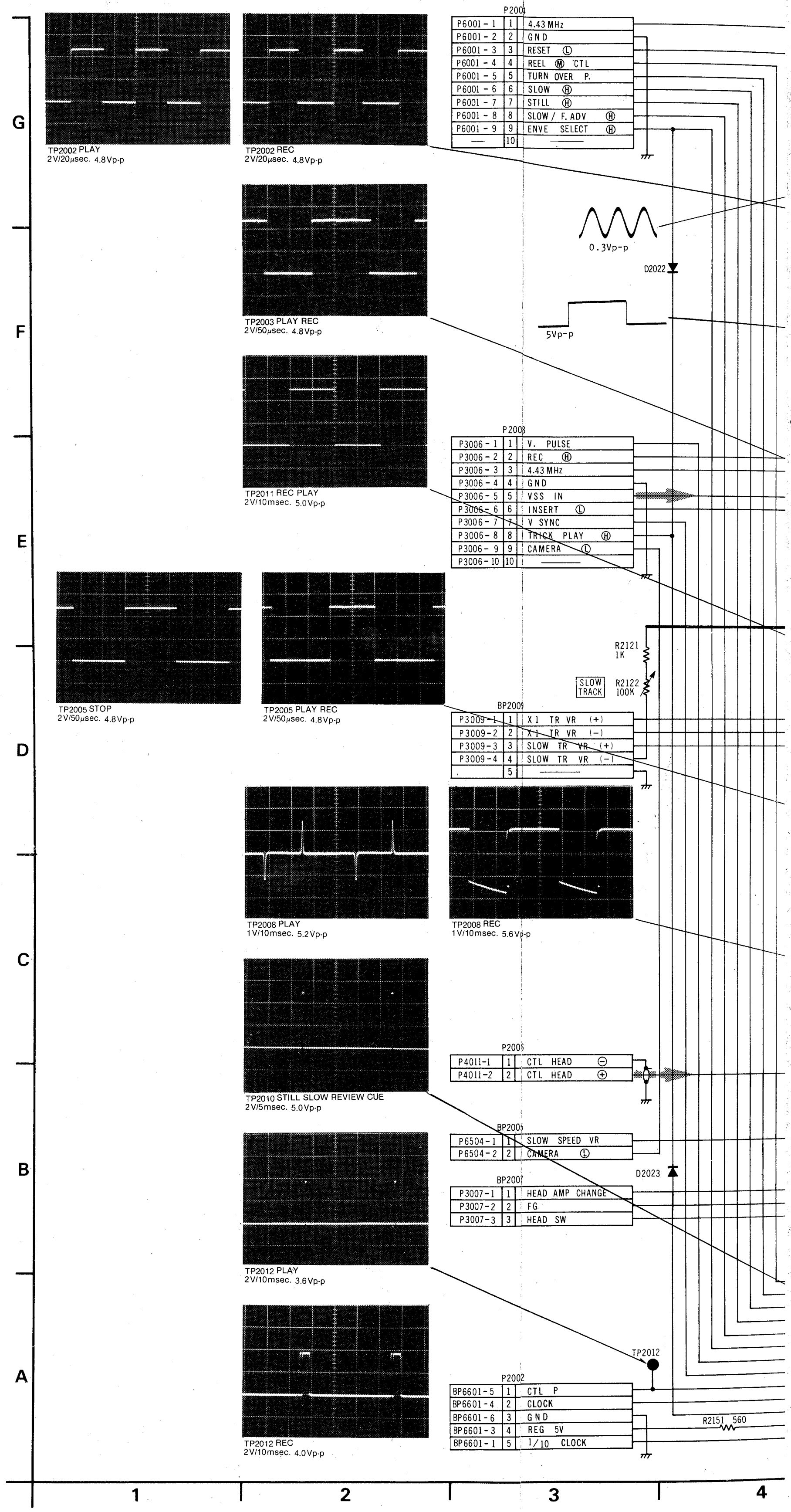
1	POWER ON/OFF
2	———
3	———
4	REVERSE PLAY Ⓛ
5	———

OPERATION SCHEMATIC DIAGRAM


C
B
A
1
2
3
4
5
6
7
RED × 7
LN81RCPHL or SEL1910A
P6504
BP2005 - 2 | 2 | SLOW VR
BP2005 - 1 | 1 | CAMERA Ⓛ
P6505
BP6603 - 2 | 1 | TAPE SELECT
BP6603 - 1 | 2 | CTL.PULSE
BP6603 - 3 | 3 | REVERSE PLAY Ⓛ
TP6501
NORMAL
S6513
ESD14184
E240
R6510
100K
R6507
560
D6508
RED
R6509
330
D6510
CAMERA
LN31GCPHLMU
or SEL1410E
R6511
100
SLOW VR
EVA-TOP
C20B15
D6523
R6501
560
R6502
560
R6503
560
R6504
560
R6505
560
R6506
560
R6517
10K
R6516
10K
D6501
REW
D6503
F F
D6502
PLAY
D6504
REC
D6505
A-DUB
D6506
PAUSE
D6507
SLOW
P6501
1 | REW Ⓛ | BP6006 - 1
2 | F F Ⓛ | BP6006 - 2
3 | PLAY Ⓛ | BP6006 - 3
4 | REC Ⓛ | BP6006 - 4
5 | A·DUB Ⓛ | BP6006 - 5
6 | PAUSE Ⓛ | BP6006 - 6
7 | SLOW Ⓛ | BP6006 - 7
8 | REG 5V (SWITCHED) | BP6006 - 8
9 | REG 5V (NON SW) | BP6006 - 9
10 | G N D | BP6006 - 10
MA165 or 1SS133T × 11
D6511
D6512
D6513
D6514
D6515
D6516
D6517
D6518
D6519
D6520
D6521
R6519
EJECT
S6501
REW
S6502
STOP
S6503
F F
S6504
PLAY
S6505
REC
S6506
A-DUB
S6507
PAUSE
S6508
F-ADV
S6509
SLOW
S6510
RVS
S6511
EVQ-QS805G × 12
P6502
1 | PØ Ø | BP6005 - 1
2 | PØ 1 | BP6005 - 2
3 | PØ 2 | BP6005 - 3
4 | PØ 3 | BP6005 - 4
5 | PD Ø | BP6005 - 5
6 | PD 1 | BP6005 - 6
7 | PD 2 | BP6005 - 7
8 | PD 3 | BP6005 - 8
P6503
BP6004 - 1 | 1 | POWER SW ON Ⓗ
2
3
BP6004 - 5 | 4 | REVERSE PLAY Ⓛ
5
R6518
4700
S6512 POWER SW

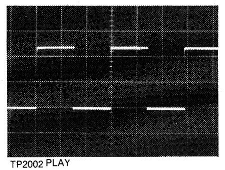
Servo	
Q2001	D-6
Q2002	E-6
Q2003	E-5
Q2004	B-5
Q2005	G-7
Q2006	G-7
Q2007	F-8
Q2008	F-8
Q2009	G-9
Q2010	G-9
Q2011	G-10
Q2012	F-10
Q2013	F-11
Q2014	F-10
Q2015	F-10
Q2016	E-15
Q2018	G-17
Q2019	F-17
Q2020	D-15
Q2021	D-10
Q2022	C-11
Q2023	C-11
Q2024	B-9
Q2027	B-10
Q2028	B-11
Q2029	B-11
IC2001	E-9
IC2002	F-5
IC2003	C-6
IC2004	C-13
IC2005	C-9
IC2006	D-17
IC2007	E-12
IC2008	E-14
IC2009	F-16
IC2010	F-13
IC2011	G-11

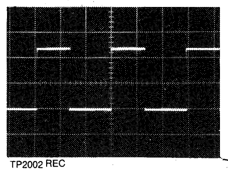
SERVO SCHEMATIC DIAGRAM

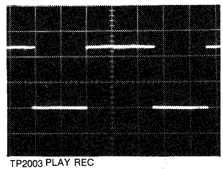

G
F
E
D
C
B
A
1
2
3
4
TP2002 PLAY
2V/20μsec. 4.8Vp-p
TP2002 REC
2V/20μsec. 4.8Vp-p
TP2003 PLAY REC
2V/50μsec. 4.8Vp-p
TP2011 REC PLAY
2V/10msec. 5.0Vp-p
TP2005 STOP
2V/50μsec. 4.8Vp-p
TP2005 PLAY REC
2V/50μsec. 4.8Vp-p
TP2008 PLAY
1V/10msec. 5.2Vp-p
TP2008 REC
1V/10msec. 5.6Vp-p
TP2010 STILL SLOW REVIEW CUE
2V/5msec. 5.0Vp-p
TP2012 PLAY
2V/10msec. 3.6Vp-p
TP2012 REC
2V/10msec. 4.0Vp-p
0.3Vp-p
5Vp-p
D2022
P2001
P6001 - 1 | 1 | 4.43 MHz
P6001 - 2 | 2 | GND
P6001 - 3 | 3 | RESET Ⓛ
P6001 - 4 | 4 | REEL Ⓜ CTL
P6001 - 5 | 5 | TURN OVER P.
P6001 - 6 | 6 | SLOW Ⓗ
P6001 - 7 | 7 | STILL Ⓗ
P6001 - 8 | 8 | SLOW / F. ADV Ⓗ
P6001 - 9 | 9 | ENVE SELECT Ⓗ
— | 10 | ———
P2003
P3006 - 1 | 1 | V. PULSE
P3006 - 2 | 2 | REC Ⓗ
P3006 - 3 | 3 | 4.43 MHz
P3006 - 4 | 4 | GND
P3006 - 5 | 5 | VSS IN
P3006 - 6 | 6 | INSERT Ⓛ
P3006 - 7 | 7 | V SYNC
P3006 - 8 | 8 | TRICK PLAY Ⓗ
P3006 - 9 | 9 | CAMERA Ⓛ
P3006 - 10 | 10 | ———
R2121
1K
SLOW TRACK
R2122
100K
BP2009
P3009 - 1 | 1 | X1 TR VR (+)
P3009 - 2 | 2 | X1 TR VR (−)
P3009 - 3 | 3 | SLOW TR VR (+)
P3009 - 4 | 4 | SLOW TR VR (−)
5 | ———
P2006
P4011-1 | 1 | CTL HEAD ⊖
P4011-2 | 2 | CTL HEAD ⊕
BP2005
P6504 - 1 | 1 | SLOW SPEED VR
P6504 - 2 | 2 | CAMERA Ⓛ
D2023
BP2007
P3007 - 1 | 1 | HEAD AMP CHANGE
P3007 - 2 | 2 | FG
P3007 - 3 | 3 | HEAD SW
TP2012
P2002
BP6601 - 5 | 1 | CTL P
BP6601 - 4 | 2 | CLOCK
BP6601 - 6 | 3 | GND
BP6601 - 3 | 4 | REG 5V
BP6601 - 1 | 5 | 1/10 CLOCK
R2151 560

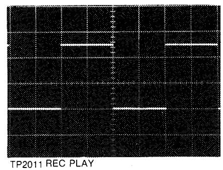
ERVO SCHEMATIC DIAGRAM

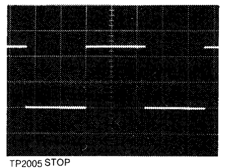
CYLINDER PHASE LOOP. CAPSTAN PHASE LOOP. CYLINDER SPEED LOOP. CAPSTAN SPEED LOOP.

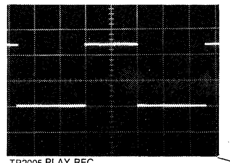

TP2002 PLAY
2V/20μsec. 4.8Vp-p

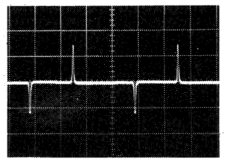

TP2002 REC
2V/20μsec. 4.8Vp-p

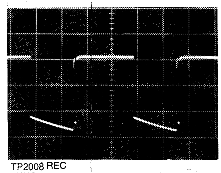

TP2003 PLAY REC
2V/50μsec. 4.8Vp-p

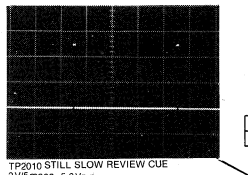

TP2011 REC PLAY
2V/10msec. 5.0Vp-p

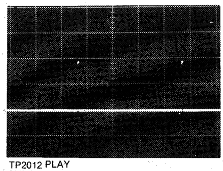

TP2005 STOP
2V/50μsec. 4.8Vp-p

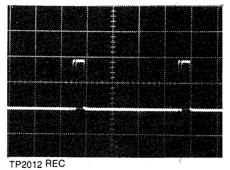

TP2005 PLAY REC
2V/50μsec. 4.8Vp-p


TP2008 PLAY
1V/10msec. 5.2Vp-p


TP2008 REC
1V/10msec. 5.6Vp-p


TP2010 STILL SLOW REVIEW CUE
2V/5msec. 5.0Vp-p


TP2012 PLAY
2V/10msec. 3.6Vp-p


TP2012 REC
2V/10msec. 4.0Vp-p

P2001

P6001-1	1	4.43 MHz
P6001-2	2	GND
P6001-3	3	RESET Ⓛ
P6001-4	4	REEL Ⓜ CTL
P6001-5	5	TURN OVER P.
P6001-6	6	SLOW Ⓗ
P6001-7	7	STILL Ⓗ
P6001-8	8	SLOW / F. ADV Ⓗ
P6001-9	9	ENVE SELECT Ⓗ
—	10	—

P2008

P3006-1	1	V. PULSE
P3006-2	2	REC Ⓗ
P3006-3	3	4.43 MHz
P3006-4	4	GND
P3006-5	5	VSS IN
P3006-6	6	INSERT Ⓛ
P3006-7	7	V SYNC
P3006-8	8	TRICK PLAY Ⓗ
P3006-9	9	CAMERA Ⓛ
P3006-10	10	—

BP2009

P3009-1	1	X1 TR VR (+)
P3009-2	2	X1 TR VR (−)
P3009-3	3	SLOW TR VR (+)
P3009-4	4	SLOW TR VR (−)
	5	—

P2006

P4011-1	1	CTL HEAD ⊖
P4011-2	2	CTL HEAD ⊕

BP2005

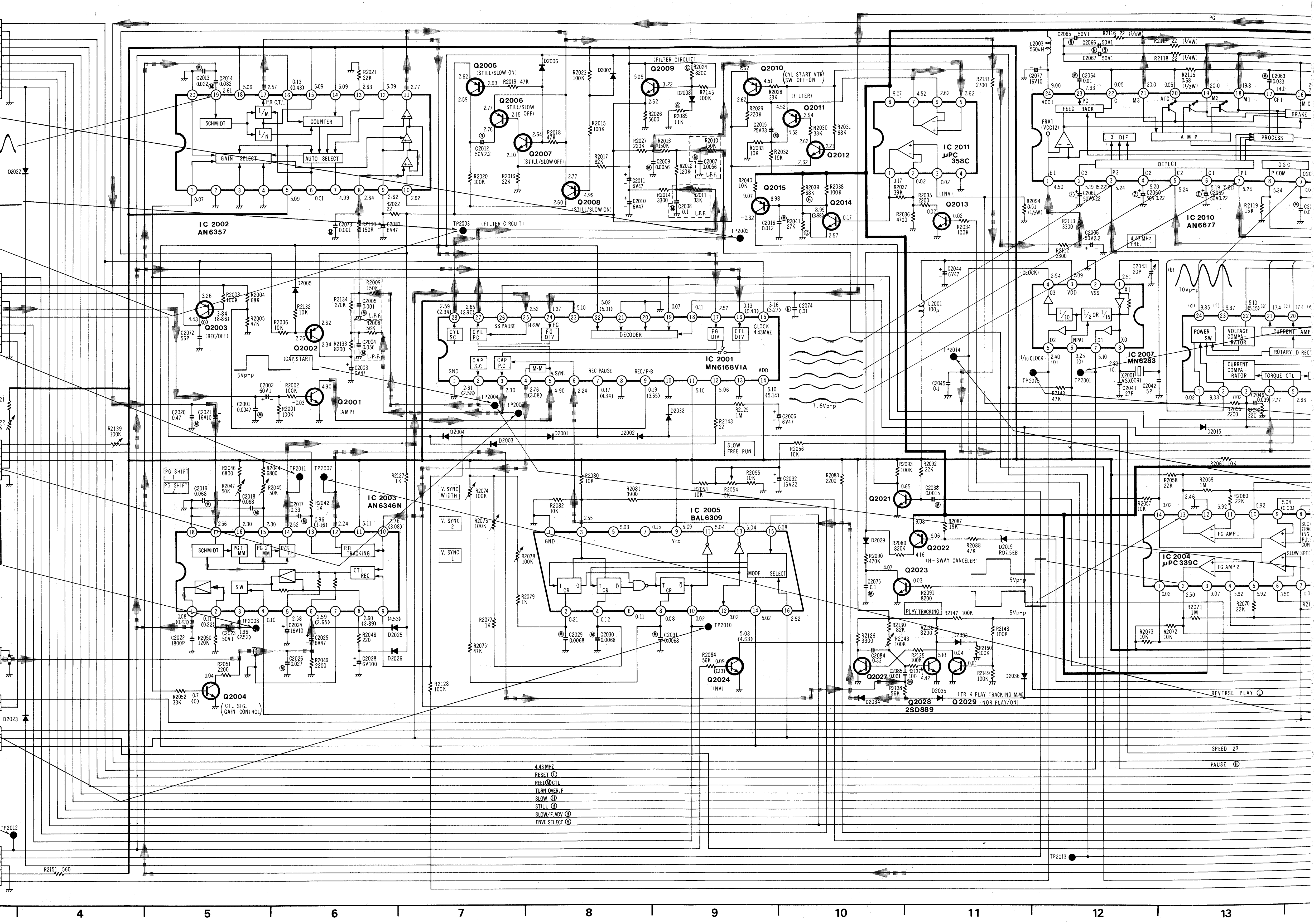
P6504-1	1	SLOW SPEED VR
P6504-2	2	CAMERA Ⓛ

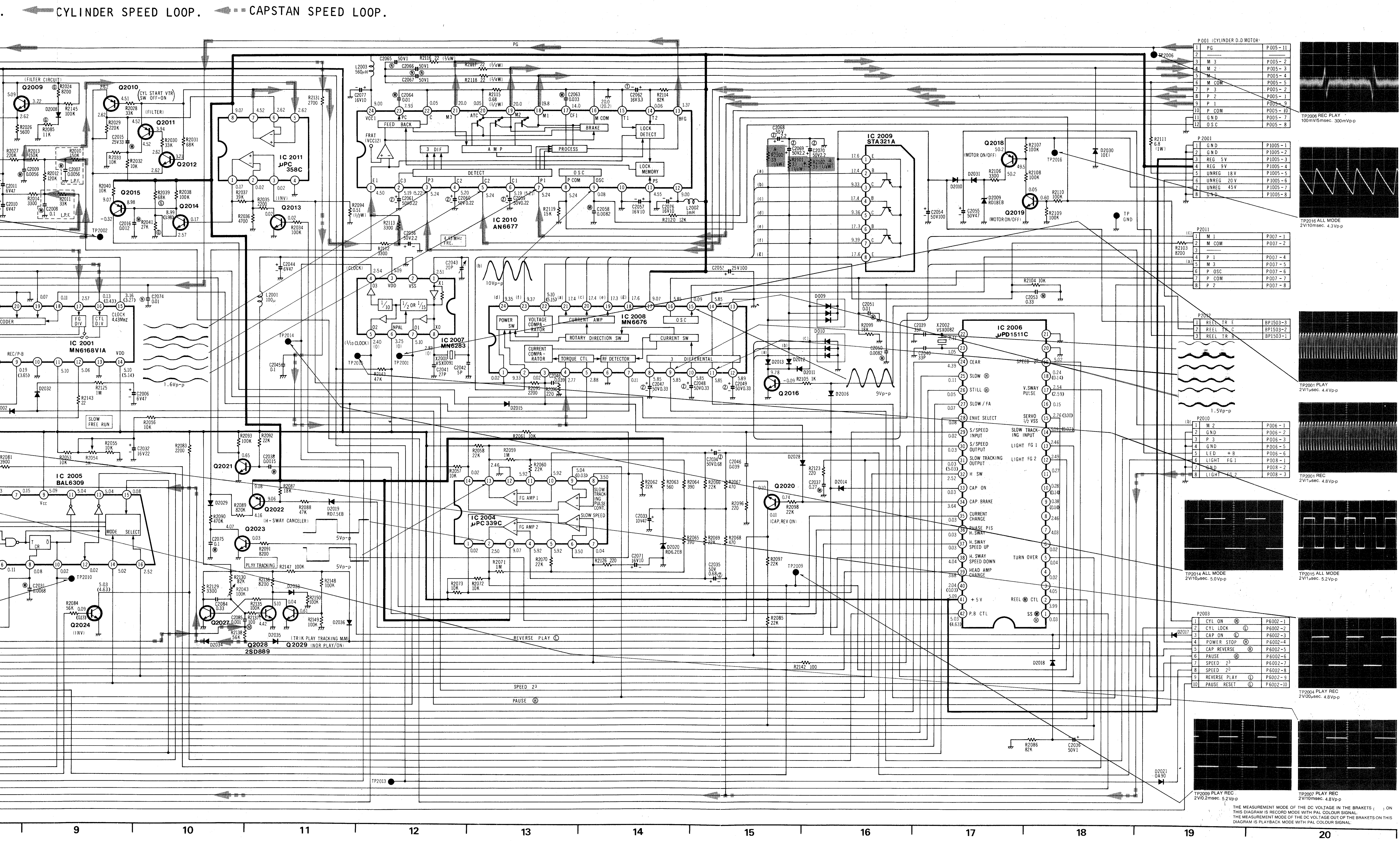
BP2007

P3007-1	1	HEAD AMP CHANGE
P3007-2	2	FG
P3007-3	3	HEAD SW

P2002

BP6601-5	1	CTL P
BP6601-4	2	CLOCK
BP6601-6	3	GND
BP6601-3	4	REG 5V
BP6601-1	5	1/10 CLOCK

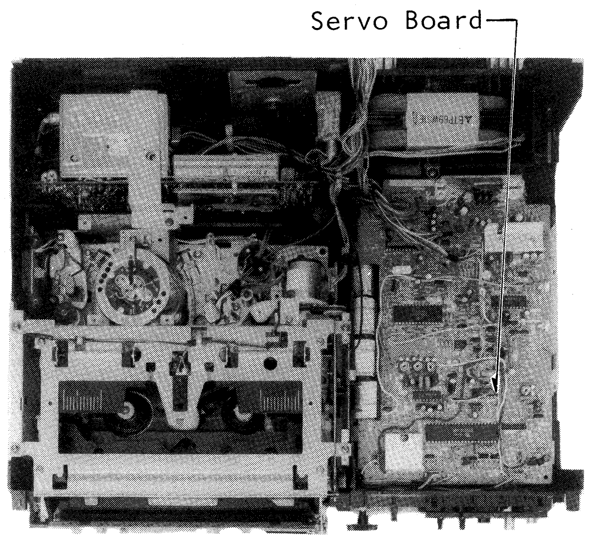

IC 2002 AN6357
IC 2001 MN6168VIA
IC 2003 AN6346N
IC 2005 BAL6309
IC 2011 μPC 358C
IC 2010 AN6677
IC 2007 MN6283
IC 2004 μPC 339C
Q2001 (AMP)
Q2002 (CAP.START)
Q2003 (REC/OFF)
Q2004 (CTL SIG. GAIN CONTROL)
Q2005 (STILL/SLOW ON)
Q2006 STILL/SLOW OFF
Q2007 (STILL/SLOW OFF)
Q2008 (STILL/SLOW ON)
Q2009 (FILTER CIRCUIT)
Q2010 (CYL START VTR SW OFF-ON)
Q2011 (FILTER)
Q2012
Q2013 (INV)
Q2014
Q2015
Q2021
Q2022 (H-SWAY CANCELER)
Q2023
Q2024 (INV)
Q2027
Q2028 2SD889
Q2029 (NOR PLAY/ON)
(TRIK PLAY TRACKING M.M)
PLAY TRACKING
SLOW TRACK
SLOW FREE RUN
V. SYNC WIDTH
V. SYNC 2
V. SYNC 1
PG SHIFT 1
PG SHIFT 2
SCHMIDT
COUNTER
GAIN SELECT
AUTO SELECT
DECODER
FEED BACK
DETECT
AMP
PROCESS
OSC
BRAKE
3 DIF
POWER SW
VOLTAGE COMPARATOR
CURRENT COMPARATOR
CURRENT AMP
ROTARY DIRECT
TORQUE CTL
FG AMP 1
FG AMP 2
SLOW TRACKING PULSE
L.P.F.
0.3Vp-p
5Vp-p
1.6Vp-p
10Vp-p
PG
REVERSE PLAY Ⓛ
SPEED 2³
PAUSE Ⓗ
4.43 MHZ
RESET Ⓛ
REEL Ⓜ CTL
TURN OVER P
SLOW Ⓗ
STILL Ⓗ
SLOW/F.ADV Ⓗ
ENVE SELECT Ⓗ
TP2001
TP2002
TP2003
TP2004
TP2005
TP2006
TP2007
TP2008
TP2010
TP2011
TP2012
TP2013
TP2014
1
2
3
4
5
6
7
8
9
10
11
12
13

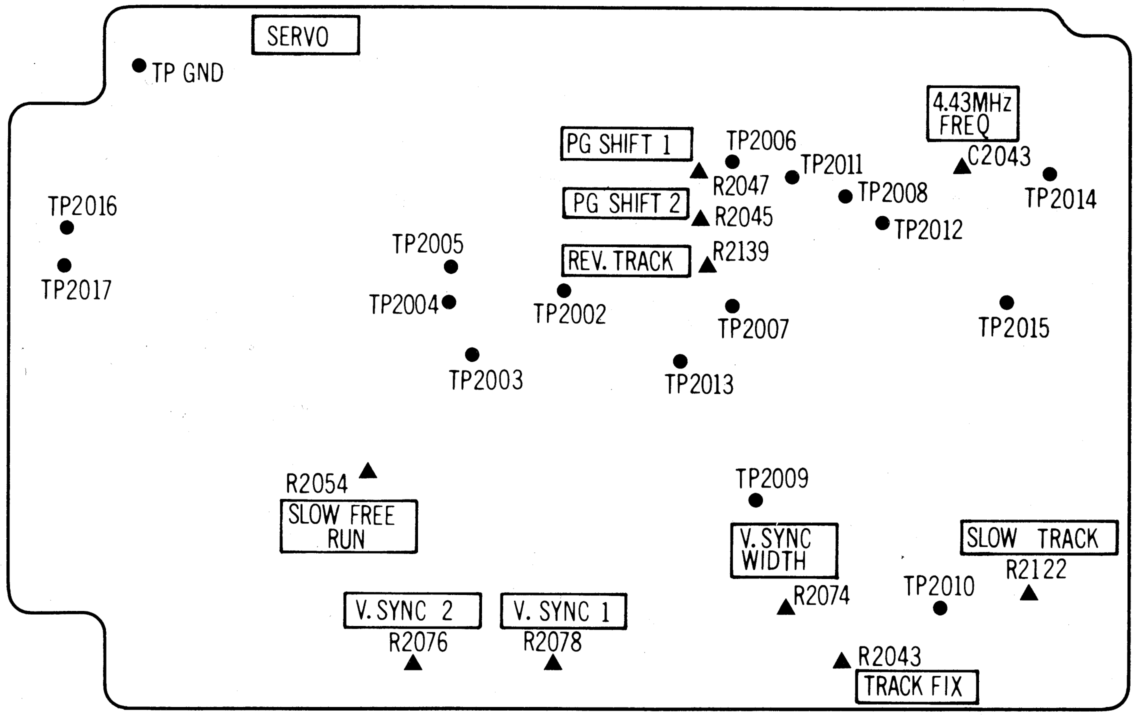

CYLINDER SPEED LOOP.
CAPSTAN SPEED LOOP.
PG
(FILTER CIRCUIT)
Q2009
Q2010
(CYL START VTR) SW OFF-ON
(FILTER)
Q2011
Q2012
Q2015
Q2014
IC 2011 μPC 358C
Q2013
(INV)
TP2002
IC 2010 AN6677
VCC1
FEED BACK
FRAT (VCC12)
3 DIF
AMP
PROCESS
BRAKE
LOCK DETECT
LOCK MEMORY
DETECT
OSC
ATC
4.43MHz FRE.
IC 2009 STA321A
Q2018
(MOTOR ON/OFF)
Q2019
(MOTOR ON/OFF)
TP2016
TP GND
IC 2001 MN6168VIA
CODER
FG DIV
CTL DIV
CLOCK 4.43MHz
REC/P-B
SLOW FREE RUN
TP2014
(CLOCK)
IC 2007 MN6283
(1/10 CLOCK)
TP2015
TP2001
1.6Vp-p
10Vp-p
IC 2008 MN6676
POWER SW
VOLTAGE COMPARATOR
CURRENT AMP
ROTARY DIRECTION SW
CURRENT SW
CURRENT COMPARATOR
TORQUE CTL
RF DETECTOR
3 DIFFERENTIAL
Q2016
9Vp-p
IC 2006 μPD1511C
CEAR
SLOW
STILL
SLOW / FA
ENVE SELECT
S/SPEED INPUT
S/SPEED OUTPUT
SLOW TRACKING OUTPUT
H SW
CAP ON
CAP BRAKE
CURRENT CHANGE
PHASE PIS
H.SWAY
H.SWAY SPEED UP
H.SWAY SPEED DOWN
HEAD AMP CHANGE
+5V
P.B CTL
SPEED
V.SWAY PULSE
SERVO 1/2 VSS
SLOW TRACKING INPUT
LIGHT FG 1
LIGHT FG 2
TURN OVER
REEL Ⓜ CTL
SS Ⓜ
IC 2005 BAL6309
MODE SELECT
TR
CR
Q2021
Q2022
(H-SWAY CANCELER)
Q2023
PLAY TRACKING
Q2024
(INV)
TP2010
Q2027
Q2028 2SD889
Q2029 (NOR PLAY/ON)
(TRIK PLAY TRACKING MM)
IC 2004 μPC339C
FG AMP 1
FG AMP 2
SLOW TRACKING PULSE CONT.
SLOW SPEED
5Vp-p
Q2020
(CAP.REV ON)
TP2009
REVERSE PLAY Ⓛ
SPEED 2³
PAUSE Ⓗ
TP2013
1.5Vp-p
P001 (CYLINDER D.D MOTOR)
1 PG P005-11
2 — —
3 M 3 P005-2
4 M 2 P005-3
5 M 1 P005-4
6 M COM P005-5
7 P 3 P005-2
8 P 2 P005-1
9 P 1 P005-9
10 P COM P005-10
11 GND P005-7
12 OSC P005-8
P2001
1 GND P1005-1
2 GND P1005-2
3 REG 5V P1005-3
4 REG 9V P1005-4
5 UNREG 18V P1005-5
6 UNREG 20V P1005-6
7 UNREG 45V P1005-7
8 GND P1005-8
P2011
1 M 1 P007-1
2 M COM P007-2
3 —
4 P 1 P007-4
5 M 3 P007-5
6 P OSC P007-6
7 P COM P007-7
8 P 2 P007-8
P2012
1 REEL TR E BP1503-3
2 REEL TR C BP1503-2
3 REEL TR B BP1503-1
P2010
1 M 2 P006-1
2 GND P006-2
3 P 3 P006-3
4 GND P006-5
5 LED +B P006-6
6 LIGHT FG 1 P008-1
7 GND P008-2
8 LIGHT FG 2 P008-3
P2003
1 CYL ON Ⓗ P6002-1
2 CYL LOCK Ⓛ P6002-2
3 CAP ON Ⓛ P6002-3
4 POWER STOP Ⓗ P6002-4
5 CAP REVERSE Ⓗ P6002-5
6 PAUSE Ⓗ P6002-6
7 SPEED 2³ P6002-7
8 SPEED 2⁰ P6002-8
9 REVERSE PLAY Ⓛ P6002-9
10 PAUSE RESET Ⓛ P6002-10
TP2006 REC PLAY 100mV/5msec. 300mVp-p
TP2016 ALL MODE 2V/10msec. 4.3Vp-p
TP2001 PLAY 2V/1μsec. 4.4Vp-p
TP2001 REC 2V/1μsec. 4.8Vp-p
TP2014 ALL MODE 2V/10μsec. 5.0Vp-p
TP2015 ALL MODE 2V/1μsec. 5.2Vp-p
TP2004 PLAY REC 2V/20μsec. 4.8Vp-p
TP2009 PLAY REC 2V/0.2msec. 5.2Vp-p
TP2007 PLAY REC 2V/10msec. 4.8Vp-p
9
10
11
12
13
14
15
16
17
18
19
20

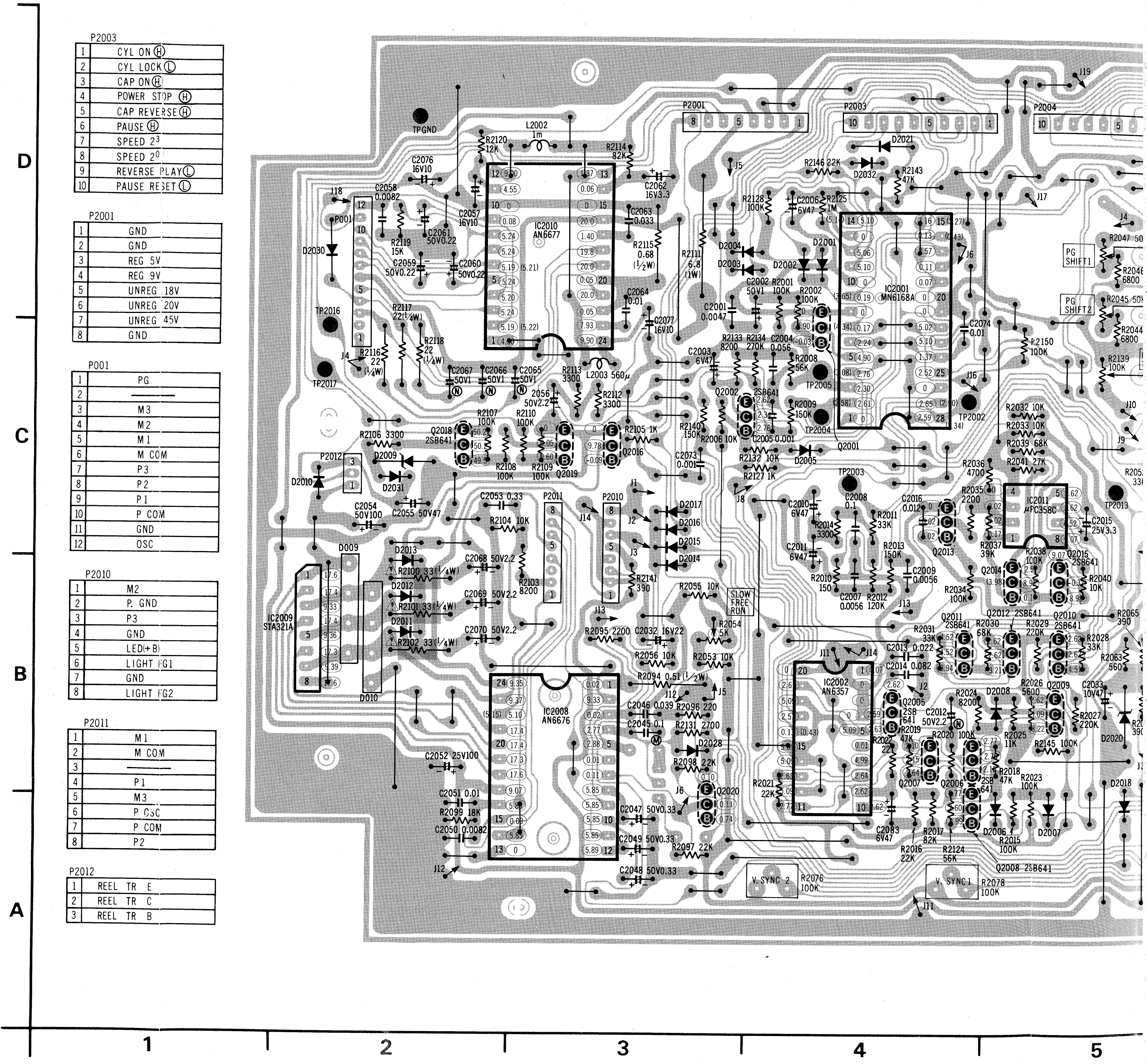
THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRAKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRAKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

SERVO BOARD (VEP02155A)

Servo C.B.A	
Q2001	D-4
Q2002	C-3
Q2003	D-6
Q2004	C-5
Q2005	B-4
Q2006	B-4
Q2007	B-4
Q2008	A-4
Q2009	B-5
Q2010	B-5
Q2011	B-4
Q2012	B-5
Q2013	C-4
Q2014	C-5
Q2015	C-5
Q2016	C-3
Q2018	C-2
Q2019	C-3
Q2020	A-3
Q2021	C-7
Q2022	B-7
Q2023	B-7
Q2024	C-7
Q2027	A-6
Q2028	A-7
Q2029	A-7
IC2001	D-4
IC2002	B-4
IC2003	D-6
IC2004	B-6
IC2005	B-6
IC2006	C-6
IC2007	D-7
IC2008	B-3
IC2009	B-2
IC2010	D-3
IC2011	C-5


Servo Board


SERVO
TP GND
4.43MHz FREQ
C2043
PG SHIFT 1
TP2006
TP2011
R2047
TP2008
TP2014
PG SHIFT 2
R2045
TP2012
TP2016
TP2017
TP2005
REV. TRACK
R2139
TP2004
TP2002
TP2007
TP2015
TP2003
TP2013
R2054
SLOW FREE RUN
TP2009
V.SYNC WIDTH
R2074
SLOW TRACK
R2122
TP2010
V.SYNC 2
R2076
V.SYNC 1
R2078
R2043
TRACK FIX


D
C
B
A
1
2
3
4
5
TPGND
P2001
P2003
P2004
P001
J18
L2002 1m
IC2010 AN6677
IC2001 MN6168A
IC2011 μPC358C
IC2002 AN6357
IC2008 AN6676
IC2009 STA321A
TP2016
TP2017
TP2005
TP2004
TP2002
TP2003
TP2013
P2012
P2011
P2010
D2030
D2010
D2031
D2009
D009
D010
Q2018 2SB641
Q2019
Q2016
Q2002
Q2001
Q2013
Q2014
Q2015
Q2011 2SB641
Q2012 2SB641
Q2010
Q2005 2SB641
Q2006
Q2007
Q2009
Q2020
Q2008 2SB641
PG SHIFT1
PG SHIFT2
SLOW FREE RUN
V.SYNC 2
V.SYNC 1
R2076 100K
R2078 100K
R2054 5K
L2003 560μ
J19
J17
J16
J14
J13
J12
J11
J6
J5
J4
J3
J2
J1
J8
J9
J10

P2003

1	CYL ON Ⓗ
2	CYL LOCK Ⓛ
3	CAP ON Ⓗ
4	POWER STOP Ⓗ
5	CAP REVERSE Ⓗ
6	PAUSE Ⓗ
7	SPEED 2^3
8	SPEED 2^0
9	REVERSE PLAY Ⓛ
10	PAUSE RESET Ⓛ

P2001

1	GND
2	GND
3	REG 5V
4	REG 9V
5	UNREG 18V
6	UNREG 20V
7	UNREG 45V
8	GND

P001

1	PG
2	———
3	M3
4	M2
5	M1
6	M COM
7	P3
8	P2
9	P1
10	P COM
11	GND
12	OSC

P2010

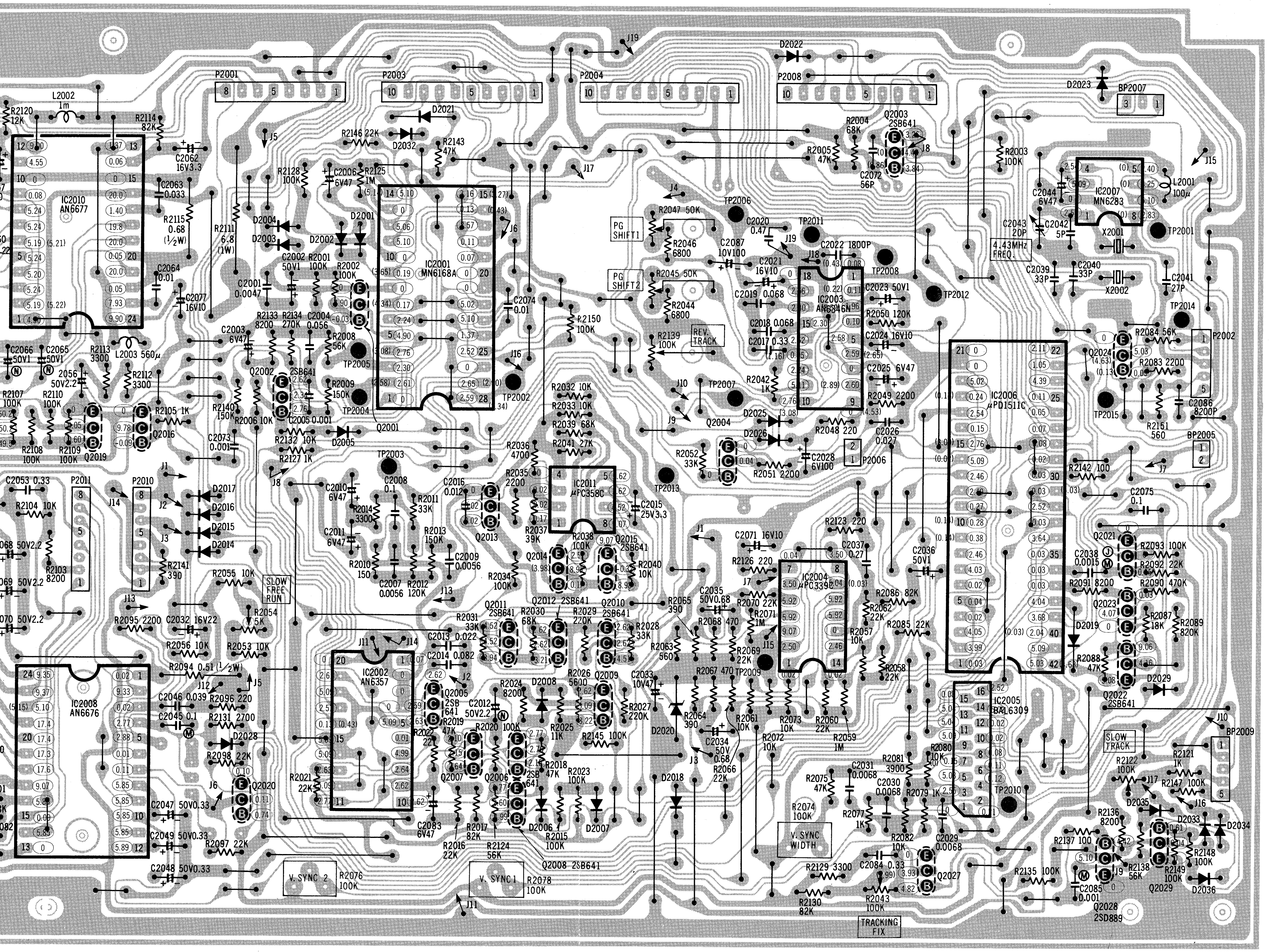
1	M2
2	P. GND
3	P3
4	GND
5	LED(+B)
6	LIGHT FG1
7	GND
8	LIGHT FG2

P2011

1	M1
2	M COM
3	———
4	P1
5	M3
6	P OSC
7	P COM
8	P2

P2012

1	REEL TR E
2	REEL TR C
3	REEL TR B


P2001
P2003
P2004
P2008
P2010
P2011
P2002
BP2005
BP2007
BP2009
IC2001 MN6168A
IC2002 AN6357
IC2003 AN6346N
IC2004 μPC339C
IC2005 BA6309
IC2006 μPD1511C
IC2007 MN6283
IC2008 AN6676
IC2010 AN6677
IC2011 μPC358C
X2001
X2002
L2001 100μ
L2002 1m
L2003 560μ
PG SHIFT1
PG SHIFT2
REV. TRACK
4.43MHz FREQ.
SLOW FREE RUN
SLOW TRACK
V. SYNC 2
V. SYNC 1
V. SYNC WIDTH
TRACKING FIX
TP2001
TP2002
TP2003
TP2004
TP2005
TP2006
TP2007
TP2008
TP2009
TP2010
TP2011
TP2012
TP2013
TP2014
TP2015
3
4
5
6
7
8

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

P2004

1	4.43MHz
2	GND
3	RESET Ⓛ
4	REEL Ⓜ CTL
5	TURN OVER P
6	SLOW Ⓗ
7	STILL Ⓗ
8	SLOW/F-ADV Ⓗ
9	ENV SELECT Ⓗ
10	———

P2008

1	V.PULSE
2	REC Ⓗ
3	4.43MHz
4	GND
5	VSS OUT
6	INSERT Ⓛ
7	V SYNC
8	TRICK PLAY Ⓗ
9	CAMERA Ⓛ
10	———

BP2007

1	HEAD AMP CHANGE
2	FG
3	HEAD SW

P2002

1	CTL P
2	1/10 CLOCK
3	GND
4	REG 5V
5	CLOCK

P2006

1	CTL P. ⊖
2	CTL P. ⊕

BP2005

1	SLOW SPEED VR
2	CAMERA Ⓛ

BP2009

1	X1 TR VR(+)
2	X1 TR VR(−)
3	SLOW TR VR(+)
4	SLOW TR VR(−)
5	———

E. COUNTER & TAPE REMAIN IC VOLTAG

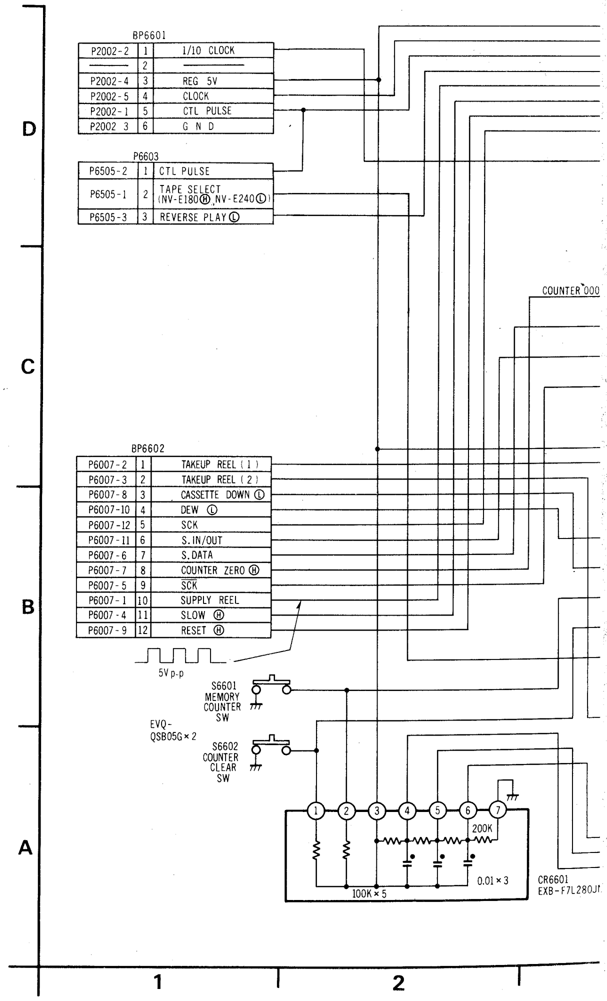
REF. NO.	IC6601									
MODE	1	2	3	4	5	6	7	8	9	10
STOP	0.56	0	0	0	0.88	4.07	4.46	0	5.09	0
PLAY	0.43	0	0	0	—	—	4.46	0	5.09	0
REC	0.65	0	0	0	—	—	4.46	0	5.09	0
F.F	0.60	0	0	0	—	—	4.46	0	5.09	0
REW	0.69	0	0	0	—	—	4.46	0	5.09	0

REF. NO.	IC6601									
MODE	21	22	23	24	25	26	27	28	29	30
STOP	2.53	0	2.16	3.13	5.08	5.09	3.60	3.61	3.61	3.61
PLAY	2.53	0	2.22	3.17	4.11	5.09	3.63	3.66	3.64	3.65
REC	2.53	0	2.26	4.21	4.11	5.09	3.67	3.67	3.66	3.66
F.F	2.53	0	2.25	3.20	4.11	5.09	3.65	3.65	3.66	3.66
REW	2.53	0	2.24	3.20	4.11	5.09	3.62	3.64	3.64	3.64

REF. NO.	IC6601									
MODE	41	42	43	44	45	46	47	48	49	50
STOP	3.63	3.63	3.61	3.61	3.61	3.60	3.60	3.61	3.61	3.60
PLAY	3.66	3.65	3.65	3.66	3.64	3.65	3.65	3.65	3.65	3.66
REC	3.66	3.66	3.66	3.64	3.64	3.66	3.65	3.67	3.66	3.68
F.F	3.66	3.65	3.62	3.62	3.62	3.61	3.62	3.61	3.61	3.62
REW	3.63	3.63	3.61	3.61	3.61	3.61	3.62	3.60	3.61	3.61

REF. NO.	IC6601									
MODE	61	62	63	64						
STOP	0.10	4.63	0.21	0						
PLAY	0.10	—	0.21	0						
REC	0.10	—	0.21	0						
F.F	0.10	2.27	0.21	0						
REW	0.10	2.27	0.21	0						

E. COUNTER & TAPE REMA


D
C
B
A
1
2
BP6601
P2002-2 1 1/10 CLOCK
2
P2002-4 3 REG 5V
P2002-5 4 CLOCK
P2002-1 5 CTL PULSE
P2002 3 6 G N D
P6603
P6505-2 1 CTL PULSE
P6505-1 2 TAPE SELECT (NV-E180Ⓗ, NV-E240Ⓛ)
P6505-3 3 REVERSE PLAY Ⓛ
COUNTER 000
BP6602
P6007-2 1 TAKEUP REEL (1)
P6007-3 2 TAKEUP REEL (2)
P6007-8 3 CASSETTE DOWN Ⓛ
P6007-10 4 DEW Ⓛ
P6007-12 5 SCK
P6007-11 6 S.IN/OUT
P6007-6 7 S.DATA
P6007-7 8 COUNTER ZERO Ⓗ
P6007-5 9 SCK
P6007-1 10 SUPPLY REEL
P6007-4 11 SLOW Ⓗ
P6007-9 12 RESET Ⓗ
5V p-p
S6601 MEMORY COUNTER SW
EVQ-QSB05G×2
S6602 COUNTER CLEAR SW
200K
100K×5
0.01×3
CR6601 EXB-F7L280JI

P2004

1	4.43MHz
2	GND
3	RESET Ⓛ
4	REEL Ⓜ CTL
5	TURN OVER P
6	SLOW Ⓗ
7	STILL Ⓗ
8	SLOW/F-ADV Ⓗ
9	ENV SELECT Ⓗ
10	———

P2008

1	V.PULSE
2	REC Ⓗ
3	4.43MHz
4	GND
5	VSS OUT
6	INSERT Ⓛ
7	V SYNC
8	TRICK PLAY Ⓗ
9	CAMERA Ⓛ
10	———

BP2007

1	HEAD AMP CHANGE
2	FG
3	HEAD SW

P2002

1	CTL P
2	1/10 CLOCK
3	GND
4	REG 5V
5	CLOCK

P2006

1	CTL P. ⊖
2	CTL P. ⊕

BP2005

1	SLOW SPEED VR
2	CAMERA Ⓛ

BP2009

1	X1 TR VR (+)
2	X1 TR VR (−)
3	SLOW TR VR (+)
4	SLOW TR VR (−)
5	———

D, ALL DIODES ARE MA165
D, ALL Tr's ARE 2SD636

E. COUNTER & TAPE REMAIN IC VOLTAGE CHART

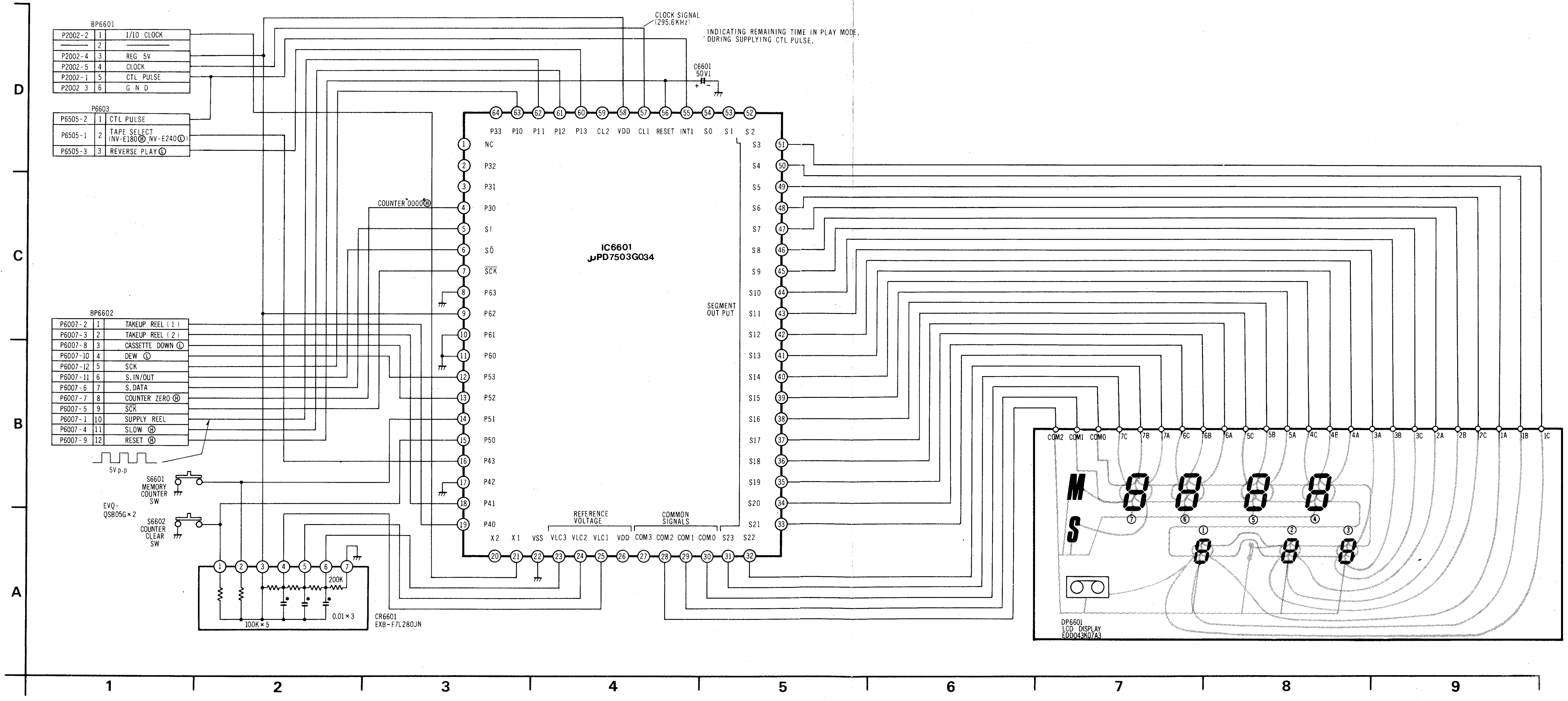
REF. NO. \ MODE	IC6601																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.56	0	0	0	0.88	4.07	4.46	0	5.09	0	0	5.09	0	5.04	5.00	5.14	0	0	0	2.48
PLAY	0.43	0	0	0	—	—	4.46	0	5.09	0	0	5.09	0	5.04	5.00	5.14	0	—	—	2.48
REC	0.65	0	0	0	—	—	4.46	0	5.09	0	0	5.09	0	5.04	5.00	5.14	0	—	—	2.48
F.F	0.60	0	0	0	—	—	4.46	0	5.09	0	0	5.09	0	5.04	5.00	5.14	0	2.33	2.32	2.48
REW	0.69	0	0	0	—	—	4.46	0	5.09	0	0	5.09	0	5.04	5.00	5.14	0	2.33	2.32	2.48

REF. NO. \ MODE	IC6601																			
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	2.53	0	2.16	3.13	5.08	5.09	3.60	3.61	3.61	3.61	3.63	3.62	3.63	3.63	3.62	3.63	3.63	3.63	3.63	3.63
PLAY	2.53	0	2.22	3.17	4.11	5.09	3.63	3.66	3.64	3.65	3.68	3.68	3.68	3.64	3.64	3.67	3.65	3.67	3.66	3.64
REC	2.53	0	2.26	4.21	4.11	5.09	3.67	3.67	3.66	3.66	3.67	3.70	3.68	3.66	3.67	0.86	3.66	3.68	3.67	3.66
F.F	2.53	0	2.25	3.20	4.11	5.09	3.65	3.65	3.66	3.66	3.66	3.67	3.63	3.62	3.66	3.65	3.63	3.65	3.64	3.62
REW	2.53	0	2.24	3.20	4.11	5.09	3.62	3.64	3.64	3.64	3.65	3.63	3.63	3.64	3.63	3.63	3.63	3.63	3.63	3.63

REF. NO. \ MODE	IC6601																			
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	3.63	3.63	3.61	3.61	3.61	3.60	3.60	3.61	3.61	3.60	3.60	3.60	3.60	3.60	0.06	0	2.42	5.09	2.66	4.54
PLAY	3.66	3.65	3.65	3.66	3.64	3.65	3.65	3.65	3.65	3.66	3.65	3.65	3.65	3.65	0.11	0	2.42	5.09	2.66	4.54
REC	3.66	3.66	3.66	3.64	3.64	3.66	3.65	3.67	3.66	3.68	3.67	3.65	3.66	3.66	0.42	0	2.42	5.09	2.66	4.54
F.F	3.66	3.65	3.62	3.62	3.62	3.61	3.62	3.61	3.61	3.62	3.61	3.62	3.61	3.61	0.06	0	2.42	5.09	2.66	4.54
REW	3.63	3.63	3.61	3.61	3.61	3.61	3.62	3.60	3.61	3.61	3.61	3.61	3.62	3.62	0.06	0	2.42	5.09	2.66	4.54

REF. NO. \ MODE	IC6601			
	61	62	63	64
STOP	0.10	4.63	0.21	0
PLAY	0.10	—	0.21	0
REC	0.10	—	0.21	0
F.F	0.10	2.27	0.21	0
REW	0.10	2.27	0.21	0

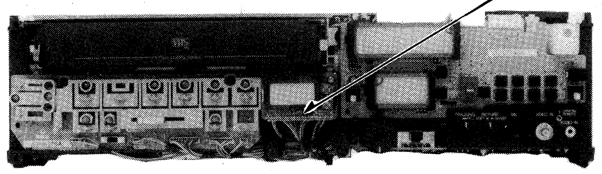
E. COUNTER & TAPE REMAIN SCHEMATIC DIAGRAM

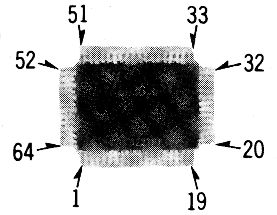


D
C
B
A
1
2
3
4
5
6
7
8
9
BP6601
P2002-2 1 1/10 CLOCK
2
P2002-4 3 REG 5V
P2002-5 4 CLOCK
P2002-1 5 CTL PULSE
P2002-3 6 GND
P6603
P6505-2 1 CTL PULSE
P6505-1 2 TAPE SELECT (NV-E180Ⓗ/NV-E240Ⓛ)
P6505-3 3 REVERSE PLAYⓁ
BP6602
P6007-2 1 TAKEUP REEL (1)
P6007-3 2 TAKEUP REEL (2)
P6007-8 3 CASSETTE DOWN Ⓛ
P6007-10 4 DEW Ⓛ
P6007-12 5 SCK
P6007-11 6 S.IN/OUT
P6007-6 7 S.DATA
P6007-7 8 COUNTER ZERO Ⓗ
P6007-5 9 SCK
P6007-1 10 SUPPLY REEL
P6007-4 11 SLOW Ⓗ
P6007-9 12 RESET Ⓗ
5Vp-p
S6601 MEMORY COUNTER SW
S6602 COUNTER CLEAR SW
EVQ-QSB05G×2
COUNTER 0000 Ⓗ
CLOCK SIGNAL (295.6KHz)
INDICATING REMAINING TIME IN PLAY MODE DURING SUPPLYING CTL PULSE.
C6601 50V1
IC6601 μPD7503G034
P33 P10 P11 P12 P13 CL2 VDD CL1 RESET INT1 S0 S1 S2
NC P32 P31 P30 SI SO SCK P63 P62 P61 P60 P53 P52 P51 P50 P43 P42 P41 P40
S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21
SEGMENT OUT PUT
X2 X1 VSS VLC3 VLC2 VLC1 VDD COM3 COM2 COM1 COM0 S23 S22
REFERENCE VOLTAGE
COMMON SIGNALS
200K
100K×5
0.01×3
CR6601 EXB-F7L280JN
COM2 COM1 COM0 7C 7B 7A 6C 6B 6A 5C 5B 5A 4C 4E 4A 3A 3B 3C 2A 2B 7C 1A 1B 1C
M
S
DP6601 LCD DISPLAY ED0043K07A3

E. COUNTER & TAPE REMAIN BOARD (VEP06177A)

E.Counter & Tape Remain Board

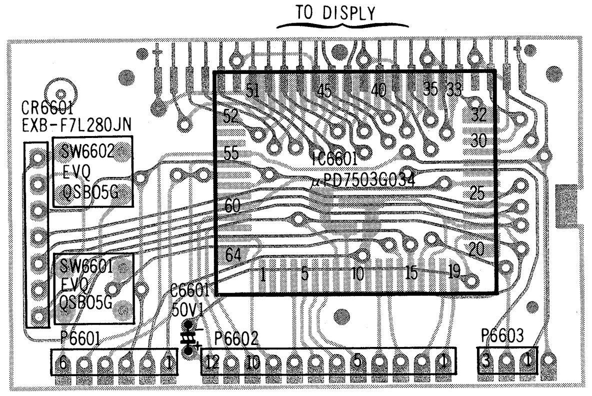




IC6601
51
33
52
32
64
20
1
19

BP6601

1	1/10 CLOCK
2	———
3	REG 5V
4	CLOCK (295KHz)
5	CTL PULSE
6	GND



TO DISPLY
CR6601 EXB-F7L280JN
SW6602 EVQ QSB05G
SW6601 EVQ QSB05G
IC6601 μPD7503G034
51
45
40
35
33
52
32
55
30
60
25
64
20
1
5
10
15
19
C6601 50V1
P6601
P6602
P6603
A
1
2
3

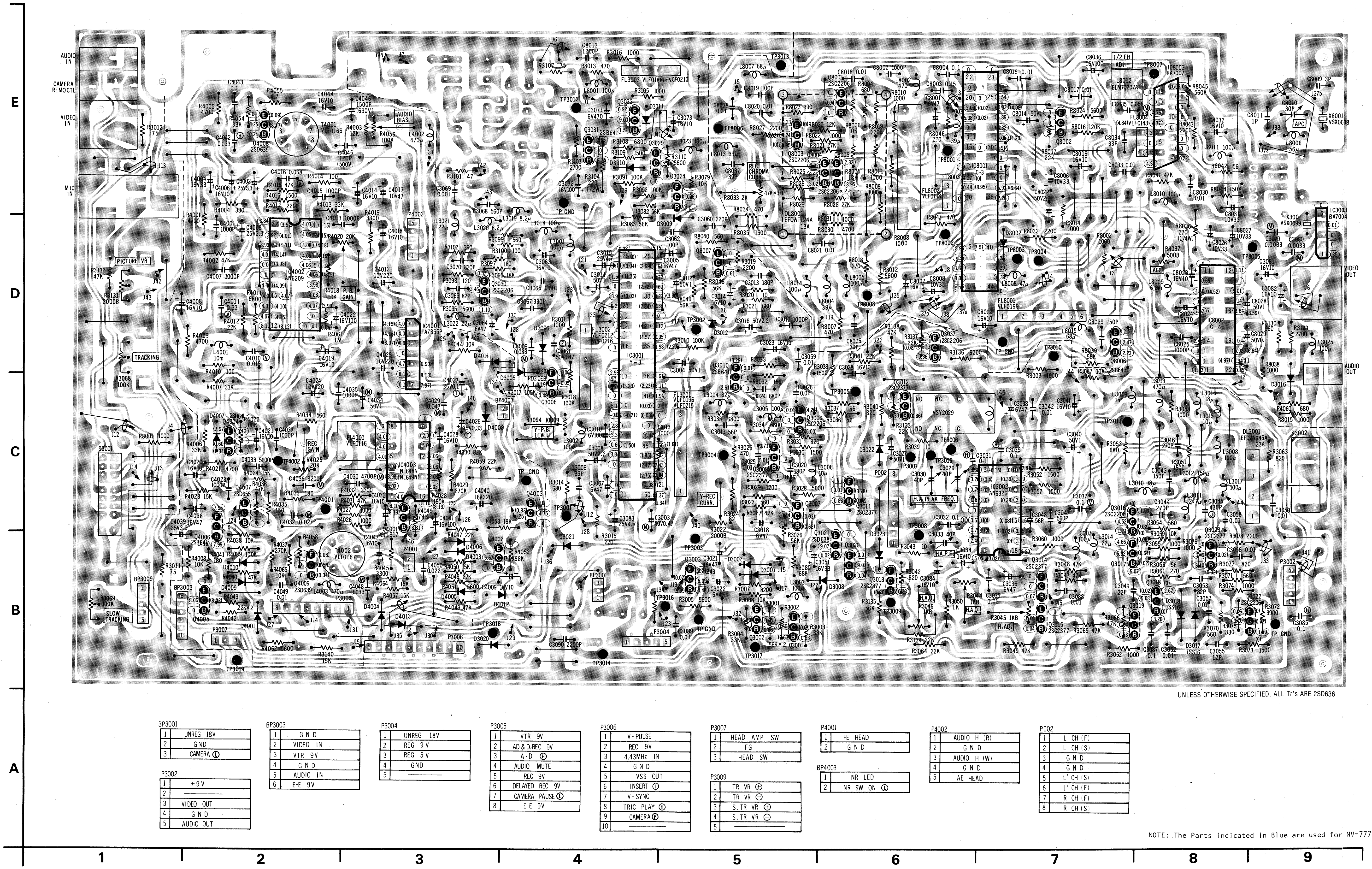
BP6602

1	TAKE UP REEL (1)
2	TAKE UP REEL (2)
3	CASSETTE D Ⓛ
4	DEW Ⓛ
5	SCK
6	S IN/OUT
7	S DATA
8	COUNTER Z Ⓗ
9	SCK
10	SUPPLY REEL
11	SLOW Ⓗ
12	RESET Ⓗ

BP6603

1	CTL PULSE
2	TAPE SELECT
3	REVERSE PLAY Ⓛ

LUMINANCE, CHROMINANCE & AUDIO BOARD (VEP03150A: NV-777E, B/VEP03150B: NV-777EG)


E
D
C
B
A
1
2
3
4
5
6
7
8
9
AUDIO IN
CAMERA REMOCTL
VIDEO IN
MIC IN
VIDEO OUT
AUDIO OUT
PICTURE VR
TRACKING
SLOW TRACKING
S3001
S3002
IC3001
IC3002 AN6326
IC3003 BA7004
IC4001 TA7355P
IC4002 AN6209
IC4003 NE648N (NE649N)
IC8001 C-3
IC8002 C-4
IC8003 BA7007
FL3001 VLF0196 VLF0215
FL3002 VLF0212 VLF0216
FL3003 VLF0188 or VCF0210
FL4001 VLF0116
FL8001 VLF0199
FL8002 VLF0198
FL8003
FL8004 VLF0143
DL3001 EFDVN645A
DL8001 EFDWT124A
T4001 VLT0166
T4002 VLT0167
X3001 VSX0099
X8001 VSX0068
AUDIO BIAS
P.B. GAIN
REC GAIN
REC CHROMA CURR.
Y-P.B. LEVEL
Y-REC CURR.
H.A. PEAK FREQ.
H.A.P.F.
H.A.Q.
AFC
APC
1/2 FH ADJ.
VJB03150
TP GND
BP3001
BP3003
BP3009
BP4003
P3002
P3004
P3005
P3006
P3007
P3009
P4001
P4002
P002

UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

BP3001

1	UNREG 18V
2	GND
3	CAMERA Ⓛ

P3002

1	+9V
2	———
3	VIDEO OUT
4	GND
5	AUDIO OUT

BP3003

1	GND
2	VIDEO IN
3	VTR 9V
4	GND
5	AUDIO IN
6	E-E 9V

P3004

1	UNREG 18V
2	REG 9V
3	REG 5V
4	GND
5	———

P3005

1	VTR 9V
2	AD & D.REC 9V
3	A·D Ⓗ
4	AUDIO MUTE
5	REC 9V
6	DELAYED REC 9V
7	CAMERA PAUSE Ⓛ
8	E E 9V

P3006

1	V-PULSE
2	REC 9V
3	4.43MHz IN
4	GND
5	VSS OUT
6	INSERT Ⓛ
7	V-SYNC
8	TRIC PLAY Ⓗ
9	CAMERA Ⓗ
10	———

P3007

1	HEAD AMP SW
2	FG
3	HEAD SW

P3009

1	TR VR ⊕
2	TR VR ⊖
3	S.TR VR ⊕
4	S.TR VR ⊖
5	———

P4001

1	FE HEAD
2	GND

BP4003

1	NR LED
2	NR SW ON Ⓛ

P4002

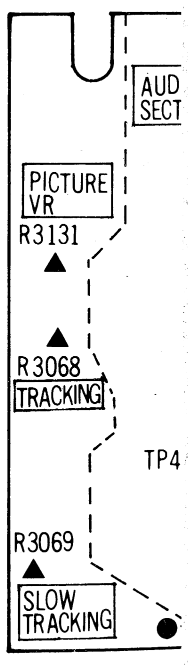
1	AUDIO H (R)
2	GND
3	AUDIO H (W)
4	GND
5	AE HEAD

P002

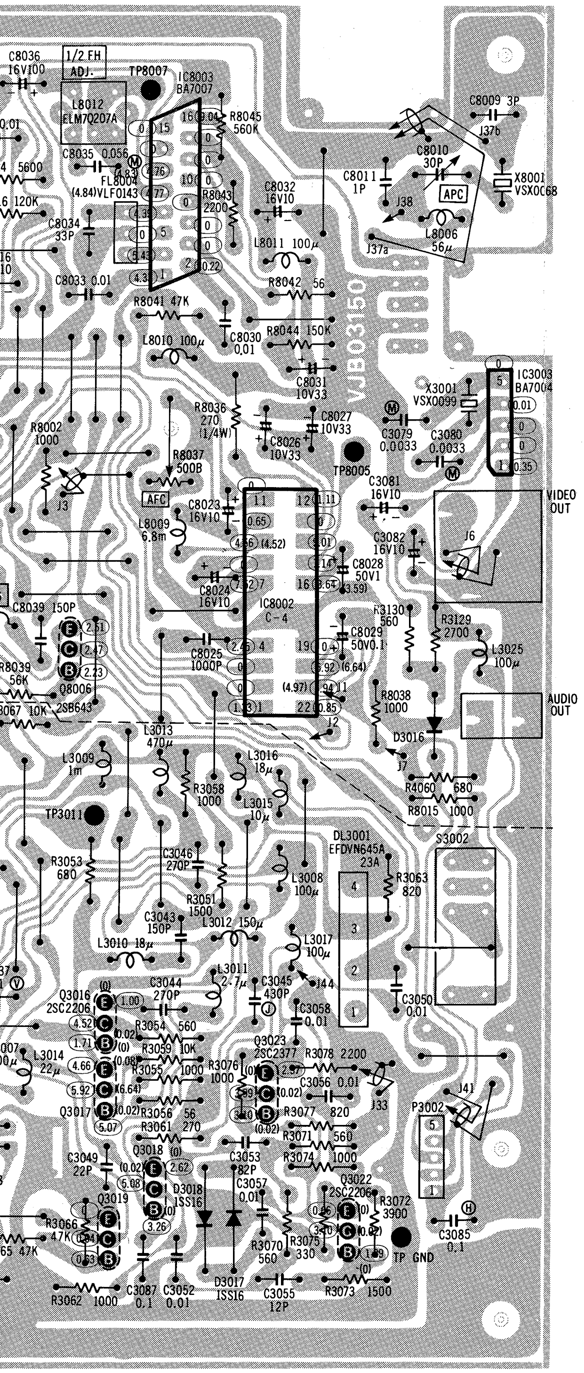
1	L CH (F)
2	L CH (S)
3	GND
4	GND
5	L' CH (S)
6	L' CH (F)
7	R CH (F)
8	R CH (S)

NOTE: The Parts indicated in Blue are used for NV-777EG.

Luminance Chron Audio C.B.A	
Luminance Se	
Q3001 Q3003 Q3006 Q3007 Q3008 Q3009 Q3010 Q3011 Q3012 Q3013 Q3014 Q3015 Q3016 Q3017 Q3018 Q3019 Q3020 Q3021 Q3022 Q3023 Q3024 Q3029 Q3030 Q3031 Q3032 Q3037	
IC3001 IC3002 IC3003	


AUD
SECT
PICTURE VR
R3131
R3068
TRACKING
TP4
R3069
SLOW TRACKING

G)



C8036 16V100
1/2 FH ADJ.
TP8007
IC8003 BA7007
L8012 ELM70207A
R8045 560K
C8009 3P
C8010 30P
J376
X8001 VSX0C68
C8035 0.056
FL8004 VLF0143
C8032 16V10
C8011 1P
J38
APC
C8034 33P
L8006 56μ
L8011 100μ
J378
C8033 0.01
R8041 47K
R8042 56
VJB03150
L8010 100μ
C8030 0.01
R8044 150K
X3001 VSX0099
IC3003 BA7004
C8031 10V33
R8036 270 1/4W
C8027 10V33
C8026 10V33
C3079 0.0033
C3080 0.0033
R8002 1000
R8037 5008
TP8005
C3081 16V10
VIDEO OUT
AFC
C8023 16V10
L8009 6.8m
J3
J6
C3082 16V10
C8028 50V1
C8024 16V10
IC8002 C-4
R3130 560
R3129 2700
C8039 150P
C8025 1000P
C8029 50V0.1
L3025 100μ
R8039 56K
Q8006 2SB643
R8038 1000
AUDIO OUT
L3013 470μ
D3016
L3009 1m
L3016 18μ
R3058 1000
L3015 10μ
R4060 680
R8015 1000
TP3011
S3002
DL3001 EFDVN645A
R3053 680
C3046 270P
L3008 100μ
R3063 820
R3051 1500
C3043 150P
L3012 150μ
L3017 100μ
L3010 18μ
L3011 2.7μ
C3045 430P
C3044 270P
Q3016 2SC2206
R3054 560
C3058 0.01
C3050 0.01
L3014 22μ
R3059 10K
R3055 1000
R3076 1000
Q3023 2SC2377
R3078 2200
C3056 0.01
J41
Q3017
R3061 270
R3056 56
R3077 820
J33
P3002
C3049 22P
Q3018
R3071 560
C3053 82P
R3074 1000
Q3019 1SS16
C3057 0.01
Q3022 2SC2206
R3072 3900
R3066 47K
R3070 560
R3075 330
TP GND
C3085 0.1
R3062 1000
C3087 0.1
C3052 0.01
D3017 1SS16
C3055 12P
R3073 1500
8
9

UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

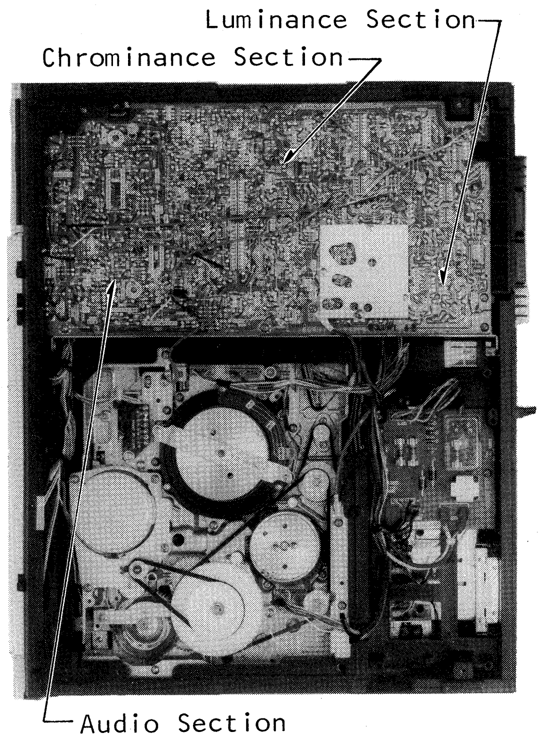
F)
S)

S)
F)
F)
S)

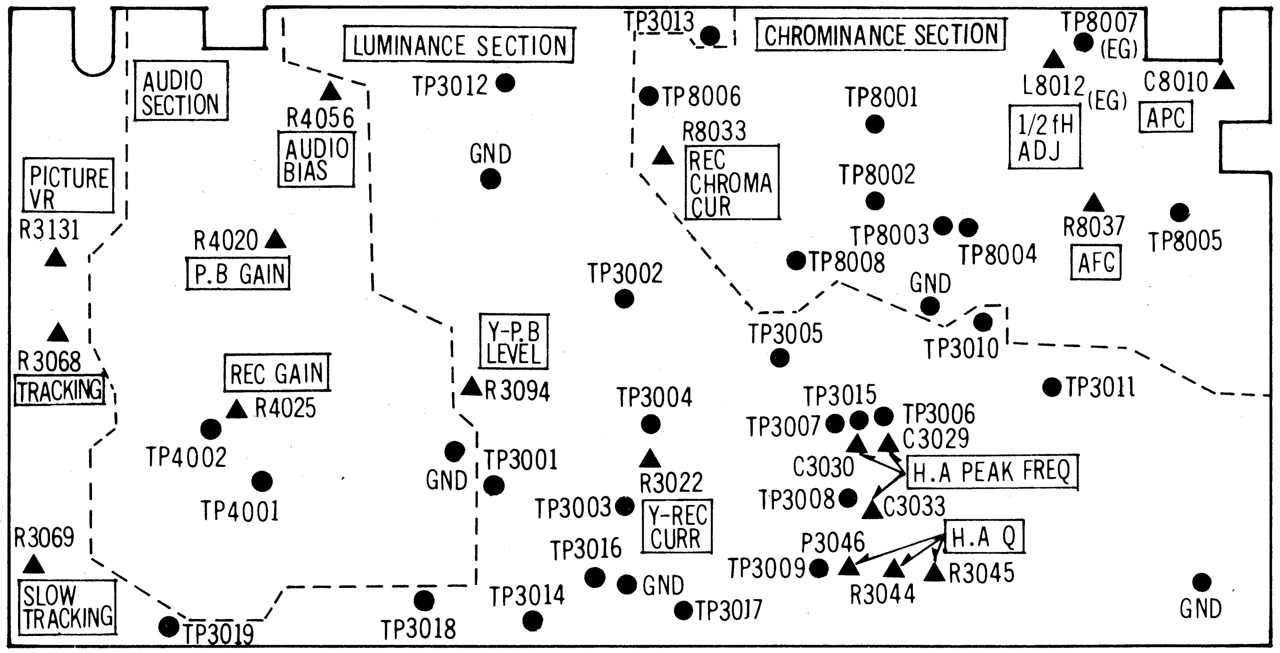
NOTE: The Parts indicated in Blue are used for NV-777EG.

Luminance Chrominance & Audio C.B.A

Luminance Section		Audio Selection	
Q3001	B-5	Q4001	C-3
Q3003	B-5	Q4002	B-3
Q3006	C-4	Q4003	C-4
Q3007	B-5	Q4004	C-2
Q3008	C-5	Q4005	B-2
Q3009	C-5	Q4006	B-2
Q3010	C-5	Q4007	C-2
Q3011	C-6	Q4008	E-2
Q3012	C-6	Q4009	B-2
Q3013	B-6		
Q3014	B-7	IC4001	C-3
Q3015	B-7	IC4002	D-2
Q3016	C-7	IC4003	C-3
Q3017	B-7	Chrominance Section	
Q3018	B-8		
Q3019	B-7	Q8001	E-6
Q3020	B-6	Q8002	E-7
Q3021	B-6	Q8003	E-5
Q3022	B-8	Q8004	E-5
Q3023	B-8	Q8005	E-6
Q3024	D-5	Q8006	D-7
Q3029	E-4	Q8007	D-5
Q3030	D-3		
Q3031	E-4	IC8001	E-7
Q3032	E-4	IC8002	D-8
Q3037	D-6	IC8003	E-8
IC3001	C-4		
IC3002	C-7		
IC3003	D-9		



Luminance Section
Chrominance Section
Audio Section



TP3013
LUMINANCE SECTION
CHROMINANCE SECTION
TP8007 (EG)
AUDIO SECTION
TP3012
TP8006
TP8001
L8012 (EG)
C8010
R4056
R8033
1/2fH ADJ
APC
AUDIO BIAS
GND
REC CHROMA CUR
PICTURE VR
R3131
TP8002
R8037
TP8005
R4020
P.B GAIN
TP8003
TP8004
AFC
TP8008
TP3002
GND
Y-P.B LEVEL
TP3005
TP3010
R3068
TRACKING
REC GAIN
R3094
TP3011
R4025
TP3004
TP3015
TP3006
TP3007
C3029
TP4002
TP3001
C3030
H.A PEAK FREQ
GND
R3022
TP4001
TP3003
Y-REC CURR
TP3008
C3033
R3069
TP3016
P3046
H.A Q
TP3009
SLOW TRACKING
GND
R3044
R3045
TP3014
TP3019
TP3018
TP3017
GND

LUMINANCE, CHROMINANCE ICs VOLTAGE CHART

REF. NO.		IC3001																
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PAL	PLAY	0	0	—	0	3.34	0.66	3.36	2.89	−0.06	5.17	0	3.74	2.98			0	0
	REC	0	0	—	0	3.36	1.50	3.36	2.89	−0.21	5.17	0	3.29	2.98			0	0
SECAM	PLAY	0	0	—	0	3.34	0.66	3.36	2.90	−0.06	5.17	0	3.74	2.98			0	0
	REC	0	0	—	0	3.36	1.50	3.36	2.90	−0.21	5.17	0	3.29	2.98			0	0
REF. NO.		IC3001																
MODE		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
PAL	PLAY	3.98	0	1.50	3.14	0.38	5.10	2.64	3.72	2.67	3.27	2.38	0	4.12	0.05	1.98		
	REC	0.02	0	1.75	3.04	0	5.15	2.69	3.73	2.72	3.30	2.34	0	4.21	4.57	2.27		
SECAM	PLAY	3.98	0	1.50	3.17	0.38	5.10	2.64	3.72	2.67	3.31	2.45	0	4.17	0.05	1.98		
	REC	0.02	0	1.78	3.07	0	5.15	2.69	3.73	2.72	3.43	2.45	0	4.29	4.57	2.29		
REF. NO.		IC3001																
MODE		41	42	43	44	45	46	47	48	49	50							
PAL	PLAY	0	0	0	5.17	1.66	1.82	2.43	2.81	1.98	1.37							
	REC	0.03	0.03	0	5.17	1.61	1.85	2.47	2.75	1.96	1.34							
SECAM	PLAY	0.02	0.02	0	5.17	1.68	1.84	2.44	2.81	1.98	1.37							
	REC	0	0	0	5.17	1.63	1.86	2.48	2.75	1.95	1.35							
REF. NO.		IC3002																
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PAL	PLAY	5.05	2.49	0.79	0.67	0	0.67	0.79	3.20	3.38	2.81	3.19	1.70	3.20	0	4.66	3.85	3.34
	REC	0.02	2.47	0	0	0	0	0	0.40	−0.15	0	0.39	0	0.38	0	0.08	−0.02	0
SECAM	PLAY	5.05	2.49	0.79	0.66	0	0.67	0.79	3.20	3.38	2.81	3.19	1.70	3.20	0	4.66	3.85	3.34
	REC	0.02	2.47	0	0	0	0	0	0.40	−0.16	0	0.38	0	0.38	0	0.08	−0.02	0
REF. NO.		IC3003																
MODE		1	2	3	4	5												
PAL	PLAY	0.35	0	0	0.01	0												
	REC	0.35	0	0	0.01	0												
SECAM	PLAY	0.50	0	0	0.01	0.02												
	REC	0.50	0	0	0.01	0.02												
REF. NO.		IC8001																
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PAL	PLAY	5.72	3.38	3.38	7.35	8.95					0	0.48	4.27	0	0	0	0	0
	REC	5.71	3.38	3.38	7.35	8.95					0	8.95	0	0	0	0	0	0
SECAM	PLAY	5.71	3.38	3.38	7.35	8.95					0	0.48	4.27	0	8.23	0	0	0
	REC	5.71	3.38	3.38	7.35	8.95					0	8.95	0	0	8.23	0	0	0
REF. NO.		IC8001																
MODE		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
PAL	PLAY	0	0	0	0	4.54	4.03	1.89	4.32	5.05	8.94	0	0	0	5.92	2.26		
	REC	0	0	0	0	4.53	4.08	1.89	4.31	4.20	8.94	0	0	0	6.64	2.25		
SECAM	PLAY	0	0	0	0	4.54	4.03	1.81	4.26	5.05	8.95	0	0	0	5.92	7.67		
	REC	0	0	0	0	4.53	4.08	1.80	4.34	4.20	8.95	0	0	0	6.64	7.66		
REF. NO.		IC8001																
MODE		41	42	43	44													
PAL	PLAY	1.33	6.39	6.39	0													
	REC	1.33	6.39	6.39	0													
SECAM	PLAY	1.33	7.32	7.32	0													
	REC	1.33	7.32	7.32	0													
REF. NO.		IC8002																
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PAL	PLAY	1.33	0	0	2.45			7.52	0	4.56	0.65	0	1.11	0	9.01	1.14	3.64	
	REC	1.33	0	0	2.47			7.52	0	4.52	0.66	0	1.11	0	9.01	1.14	3.59	
SECAM	PLAY	1.33	0	8.23	2.43			7.52	0	4.56	0.68	0	1.11	6.67	9.01	1.13	3.51	
	REC	1.33	0	8.22	2.58			7.52	0	4.53	0.69	0	1.11	6.67	9.00	1.12	3.46	
REF. NO.		IC8003																
MODE		21	22															
PAL	PLAY	4.94	0.85															
	REC	4.97	0.84															
SECAM	PLAY	4.99	0.86															
	REC	5.04	0.86															
REF. NO.		IC8003																
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
PAL	PLAY	4.33	−0.22	5.43	0	0	0	4.39	0	4.77	0	4.76	0	0	0	0	9.04	
	REC	4.33	−0.22	5.42	0	0	0	4.38	0	4.84	0	4.83	0	0	0	0	9.03	
SECAM	PLAY	4.36	−0.21	5.45	0	0	0	4.41	0	4.62	0	4.63	4.50	0	4.45	8.23	9.01	
	REC	4.36	−0.21	5.45	0	0	0	4.40	0.01	4.62	0.01	4.62	4.54	0	4.49	8.22	9.00	

LUMINANCE, CHROMINANCE ICs VOLTAGE CHART

REF. NO.		IC3001																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PAL	PLAY	0	0	—	0	3.34	0.66	3.36	2.89	−0.06	5.17	0	3.74	2.98			0	0	0	0	0.29
	REC	0	0	—	0	3.36	1.50	3.36	2.89	−0.21	5.17	0	3.29	2.98			0	0	0	0	0.28
SECAM	PLAY	0	0	—	0	3.34	0.66	3.36	2.90	−0.06	5.17	0	3.74	2.98			0	0	0	0	0.32
	REC	0	0	—	0	3.36	1.50	3.36	2.90	−0.21	5.17	0	3.29	2.98			0	0	0	0	0.30

REF. NO.		IC3001																			
MODE		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PAL	PLAY	3.98	0	1.50	3.14	0.38	5.10	2.64	3.72	2.67	3.27	2.38	0	4.12	0.05	1.98			1.61	2.11	1.94
	REC	0.02	0	1.75	3.04	0	5.15	2.69	3.73	2.72	3.30	2.34	0	4.21	4.57	2.27			1.62	2.23	1.94
SECAM	PLAY	3.98	0	1.50	3.17	0.38	5.10	2.64	3.72	2.67	3.31	2.45	0	4.17	0.05	1.98			1.62	2.15	1.94
	REC	0.02	0	1.78	3.07	0	5.15	2.69	3.73	2.72	3.43	2.45	0	4.29	4.57	2.29			1.65	2.29	1.94

REF. NO.		IC3001																			
MODE		41	42	43	44	45	46	47	48	49	50										
PAL	PLAY	0	0	0	5.17	1.66	1.82	2.43	2.81	1.98	1.37										
	REC	0.03	0.03	0	5.17	1.61	1.85	2.47	2.75	1.96	1.34										
SECAM	PLAY	0.02	0.02	0	5.17	1.68	1.84	2.44	2.81	1.98	1.37										
	REC	0	0	0	5.17	1.63	1.86	2.48	2.75	1.95	1.35										

REF. NO.		IC3002																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
PAL	PLAY	5.05	2.49	0.79	0.67	0	0.67	0.79	3.20	3.38	2.81	3.19	1.70	3.20	0	4.66	3.85	3.34	3.20		
	REC	0.02	2.47	0	0	0	0	0	0.40	−0.15	0	0.39	0	0.38	0	0.08	−0.02	0	0.38		
SECAM	PLAY	5.05	2.49	0.79	0.66	0	0.67	0.79	3.20	3.38	2.81	3.19	1.70	3.20	0	4.66	3.85	3.34	3.20		
	REC	0.02	2.47	0	0	0	0	0	0.40	−0.16	0	0.38	0	0.38	0	0.08	−0.02	0	0.38		

REF. NO.		IC3003																			
MODE		1	2	3	4	5															
PAL	PLAY	0.35	0	0	0.01	0															
	REC	0.35	0	0	0.01	0															
SECAM	PLAY	0.50	0	0	0.01	0.02															
	REC	0.50	0	0	0.01	0.02															

REF. NO.		IC8001																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PAL	PLAY	5.72	3.38	3.38	7.35	8.95					0	0.48	4.27	0	0	0	0	0	5.08	3.00	0
	REC	5.71	3.38	3.38	7.35	8.95					0	8.95	0	0	0	0	0	0	0.02	0.02	0
SECAM	PLAY	5.71	3.38	3.38	7.35	8.95					0	0.48	4.27	0	8.23	0	0	0	5.08	3.00	0
	REC	5.71	3.38	3.38	7.35	8.95					0	8.95	0	0	8.23	0	0	0	0.02	0.02	0

REF. NO.		IC8001																			
MODE		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PAL	PLAY	0	0	0	0	4.54	4.03	1.89	4.32	5.05	8.94	0	0	0	5.92	2.26					7.51
	REC	0	0	0	0	4.53	4.08	1.89	4.31	4.20	8.94	0	0	0	6.64	2.25					7.50
SECAM	PLAY	0	0	0	0	4.54	4.03	1.81	4.26	5.05	8.95	0	0	0	5.92	7.67					7.53
	REC	0	0	0	0	4.53	4.08	1.80	4.34	4.20	8.95	0	0	0	6.64	7.66					7.52

REF. NO.		IC8001																			
MODE		41	42	43	44																
PAL	PLAY	1.33	6.39	6.39	0																
	REC	1.33	6.39	6.39	0																
SECAM	PLAY	1.33	7.32	7.32	0																
	REC	1.33	7.32	7.32	0																

REF. NO.		IC8002																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PAL	PLAY	1.33	0	0	2.45			7.52	0	4.56	0.65	0	1.11	0	9.01	1.14	3.64			0	5.92
	REC	1.33	0	0	2.47			7.52	0	4.52	0.66	0	1.11	0	9.01	1.14	3.59			0	6.64
SECAM	PLAY	1.33	0	8.23	2.43			7.52	0	4.56	0.68	0	1.11	6.67	9.01	1.13	3.51			0	5.92
	REC	1.33	0	8.22	2.58			7.52	0	4.53	0.69	0	1.11	6.67	9.00	1.12	3.46			0	6.64

REF. NO.		IC8003																			
MODE		21	22																		
PAL	PLAY	4.94	0.85																		
	REC	4.97	0.84																		
SECAM	PLAY	4.99	0.86																		
	REC	5.04	0.86																		

REF. NO.		IC8003																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
PAL	PLAY	4.33	−0.22	5.43	0	0	0	4.39	0	4.77	0	4.76	0	0	0	0	9.04				
	REC	4.33	−0.22	5.42	0	0	0	4.38	0	4.84	0	4.83	0	0	0	0	9.03				
SECAM	PLAY	4.36	−0.21	5.45	0	0	0	4.41	0	4.62	0	4.63	4.50	0	4.45	8.23	9.01				
	REC	4.36	−0.21	5.45	0	0	0	4.40	0.01	4.62	0.01	4.62	4.54	0	4.49	8.22	9.00				

LUMINANCE, CHROMINANCE TRANSISTORs VOLTAGE CHART

REF. NO.		Q3001			Q3002			Q3003			Q3004			Q3005			Q3006		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0	0.66	0.23	0	0.01	0.66	5.21	5.09	4.48							−0.06	−0.05	0.48
	REC	0	0.01	0.63	0	6.43	0	5.21	0.02	5.99							−0.20	−0.19	0
SECAM	PLAY	0	0.66	0.23	0	0.01	0.66	5.21	5.09	4.48							−0.06	−0.06	0.48
	REC	0	0.01	0.63	0	6.43	0	5.21	0.02	5.99							−0.20	−0.19	0

REF. NO.		Q3007			Q3008			Q3009			Q3010			Q3011			Q3012		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0	0.44	0	0	0	0	0.01	0	0	0.01	0	0	0	0.01	0.83	0	0	0.33
	REC	0	0.03	0.62	0.71	5.01	1.46	4.26	8.61	5.00	3.29	0	2.61	0	3.78	0.02	0	0	0.86
SECAM	PLAY	0	0.44	0	0	0	0	0.01	0	0	0.01	0	0	0	0.01	0.83	0	0	0.33
	REC	0	0.03	0.62	0.71	5.01	1.46	4.26	8.62	5.00	3.29	0	2.61	0	3.78	0.02	0	0	0.86

REF. NO.		Q3013			Q3014			Q3015			Q3016			Q3017			Q3018		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0	0	0.33	0	0	0.67	0	0.01	0.04	1.00	4.52	1.71	4.66	5.92	5.07	2.62	5.08	3.26
	REC	0	0	0.86	0	0	0.67	0	0.01	0.04	0	0.02	0	0.08	6.64	0.02	0	0.02	0
SECAM	PLAY	0	0	0.33	0	0	0.67	0	0.01	0.04	1.00	4.52	1.71	4.66	5.92	5.07	2.62	5.08	3.26
	REC	0	0	0.86	0	0	0.67	0	0.01	0.04	0	0.02	0	0.08	6.64	0.02	0	0.02	0

REF. NO.		Q3019			Q3020			Q3021			Q3022			Q3023			Q3024		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0	0.04	0.63	0.01	9.07	0.04	0	9.07	0.02	0.66	3.10	1.39	2.37	3.99	3.10	0	9.06	0
	REC	0	0.04	0.63	0.01	9.06	0.04	0	9.06	0.02	0	0.02	0	0	0.02	0.02	0	9.05	0
SECAM	PLAY	0	0.04	0.63	0.04	9.07	0.04	0	9.07	0.04	0.66	3.10	1.39	2.37	3.99	3.10	0	9.06	0
	REC	0	0.04	0.63	0.04	9.06	0.04	0	9.06	0.04	0	0.02	0	0	0.02	0.02	0	9.05	0

REF. NO.		Q3025			Q3026			Q3027			Q3028			Q3029			Q3030		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY													0	3.44	0	0.37	3.46	1.10
	REC													0	3.44	0	0.37	3.46	1.10
SECAM	PLAY													0	3.43	0	0.37	3.46	1.10
	REC													0	3.43	0	0.37	3.46	1.10

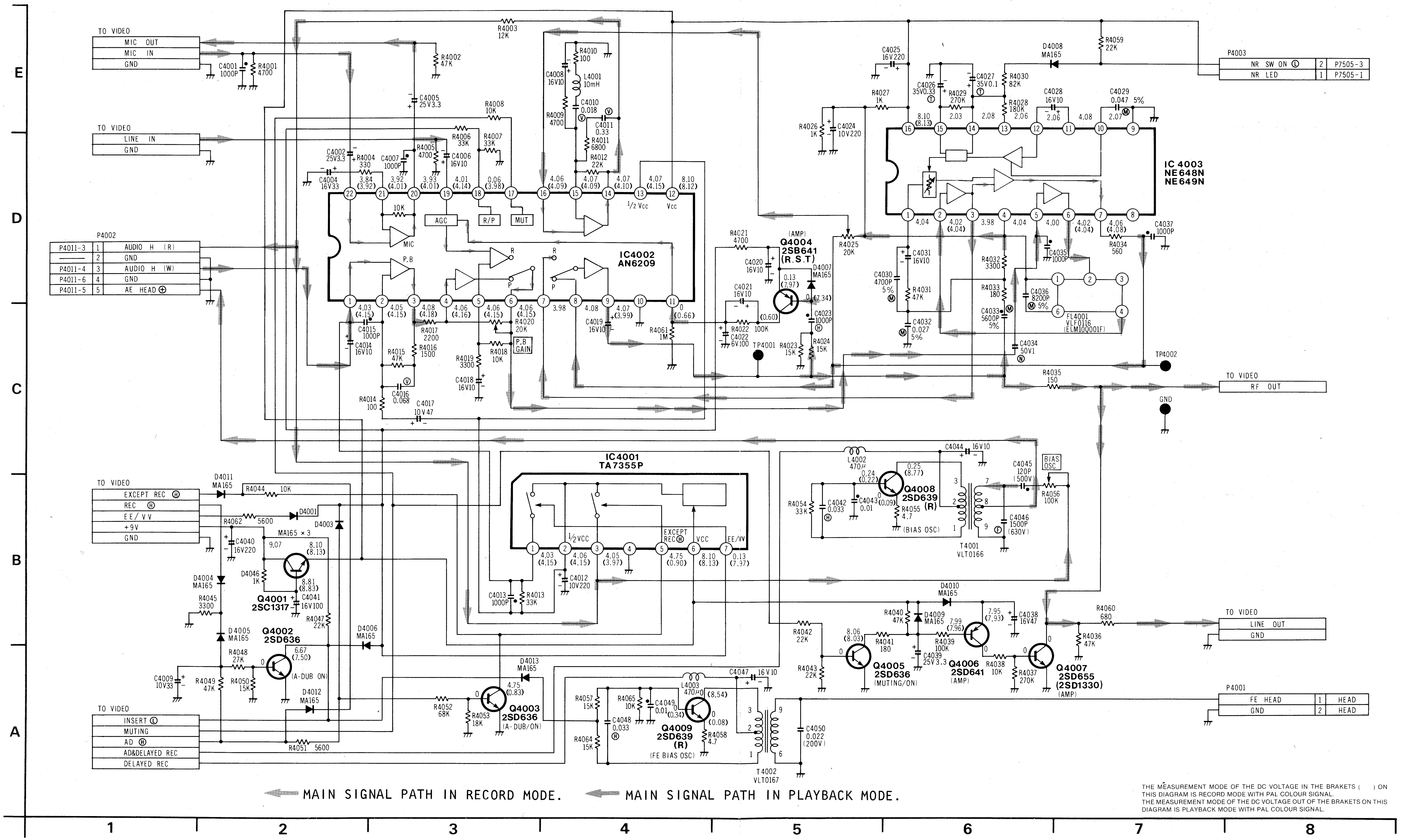
REF. NO.		Q3031			Q3032			Q3037											
MODE		E	C	B	E	C	B	E	C	B									
PAL	PLAY	3.03	0	2.35	0.92	9.00	1.51	0	0.21	0.36									
	REC	3.03	0	2.35	0.92	8.99	1.51	0	0.08	0.36									
SECAM	PLAY	3.15	0	2.45	0.97	9.00	1.55	0	0.20	0.35									
	REC	3.15	0	2.45	0.97	8.99	1.55	0	0.07	0.35									

REF. NO.		Q8001			Q8002			Q8003			Q8004			Q8005			Q8006		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0	0.04	0	0	0	0	0.23	3.24	0.95	2.32	8.95	3.02	2.32	8.95	0	2.51	2.47	2.23
	REC	0	0.04	0	0	0	0	0	0.02	0	2.32	8.94	3.02	2.32	8.94	0	2.51	2.48	2.23
SECAM	PLAY	0	0.01	0.72	0	0.01	0	0.23	3.23	0.95	4.19	8.95	3.24	4.19	8.95	4.90	2.52	2.45	2.25
	REC	0	0.01	0.72	0	0	0	0	0.02	0	4.18	8.95	3.24	4.18	8.95	4.89	2.52	2.54	2.25

REF. NO.		Q8007																	
MODE		E	C	B															
PAL	PLAY	0	0	0.61															
	REC	0	0	0.61															
SECAM	PLAY	0	0	0.61															
	REC	0	0	0.61															

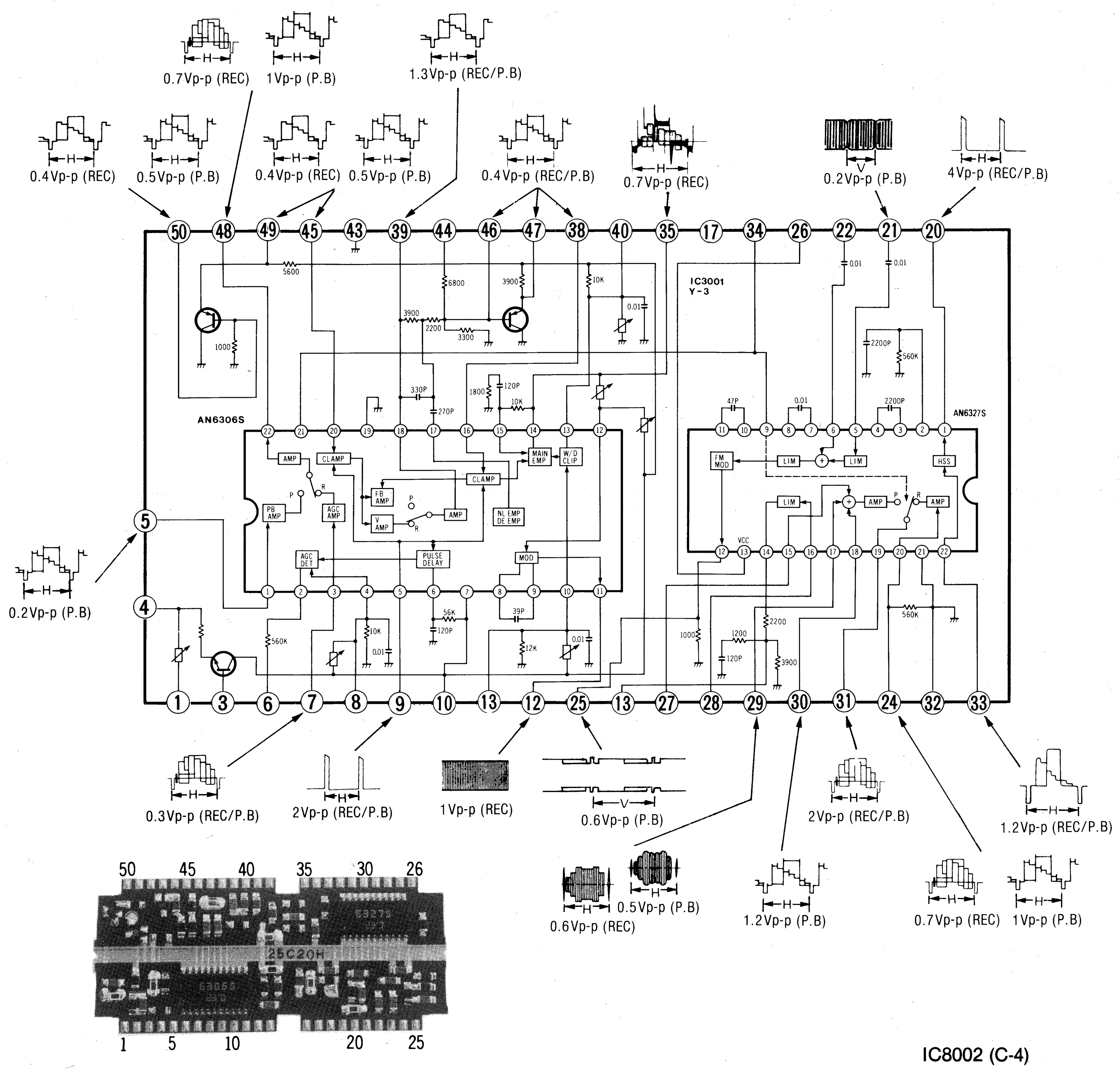
Audio	
Q4001	B-2
Q4002	A-2
Q4003	A-3
Q4004	C-5
Q4005	A-5
Q4006	A-6
Q4007	A-6
Q4008	B-6
Q4009	A-4
IC4001	B-4
IC4002	D-4
IC4003	D-6

AUDIO SCHEMATIC DIAGRAM

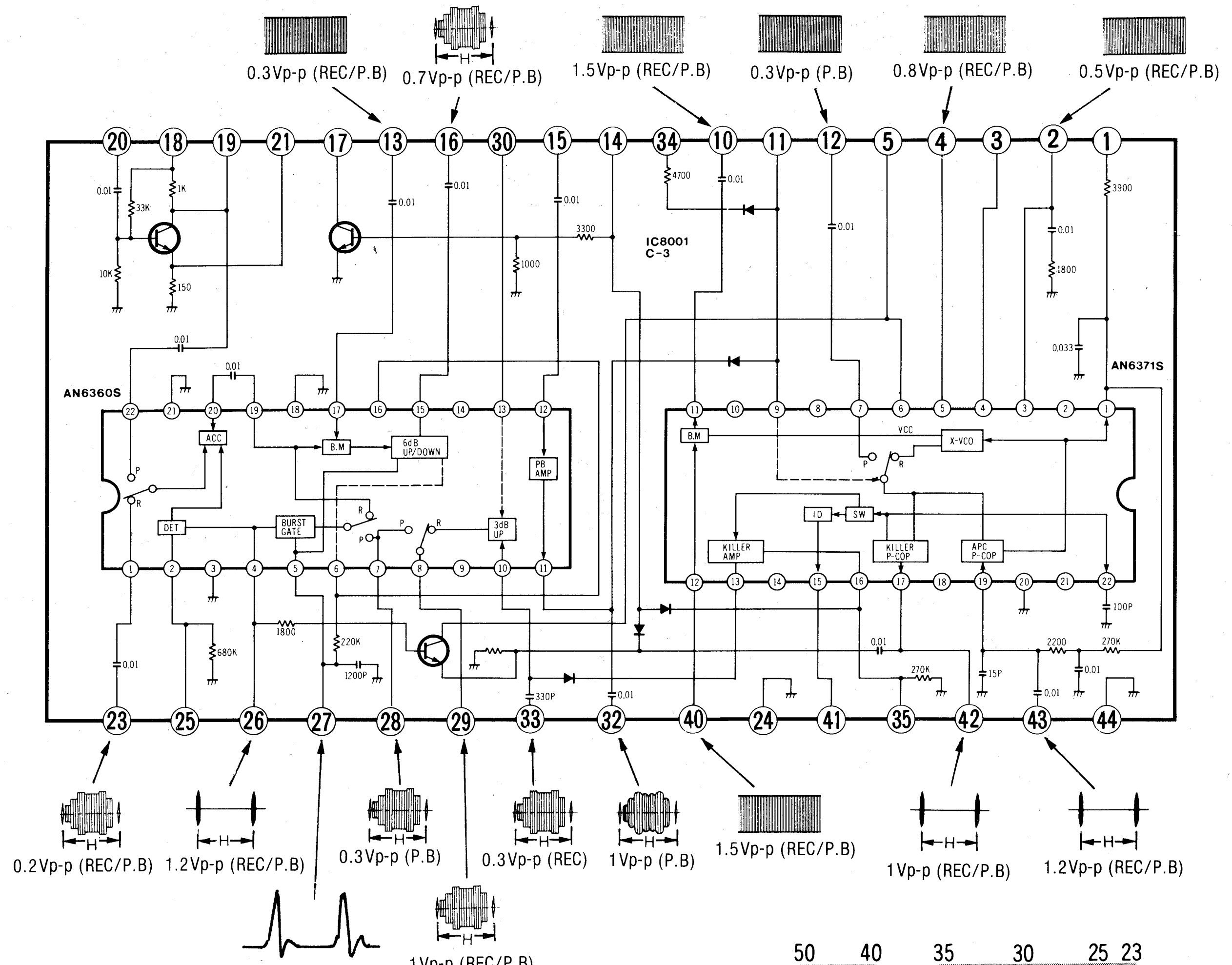

TO VIDEO
MIC OUT
MIC IN
GND
LINE IN
P4002
AUDIO H (R)
AUDIO H (W)
AE HEAD ⊕
P4011-3
P4011-4
P4011-6
P4011-5
EXCEPT REC Ⓗ
REC Ⓗ
EE/VV
+9V
INSERT Ⓛ
MUTING
AD Ⓗ
AD&DELAYED REC
DELAYED REC
IC4002
AN6209
AGC
R/P
MUT
MIC
P.B
P.B GAIN
1/2 Vcc
Vcc
IC4001
TA7355P
EXCEPT REC Ⓗ
VCC
EE/VV
IC 4003
NE648N
NE649N
Q4004
2SB641
(R.S.T)
(AMP)
Q4001
2SC1317
Q4002
2SD636
(A-DUB ON)
Q4003
2SD636
(A-DUB/ON)
Q4008
2SD639
(R)
(BIAS OSC)
T4001
VLT0166
BIAS OSC
Q4009
2SD639
(R)
(FE BIAS OSC)
T4002
VLT0167
Q4005
2SD636
(MUTING/ON)
Q4006
2SD641
(AMP)
Q4007
2SD655
(2SD1330)
(AMP)
FL4001
VLF0116
(ELM10Q001F)
TP4001
TP4002
GND
RF OUT
LINE OUT
P4001
FE HEAD
HEAD
P4003
NR SW ON Ⓛ
NR LED
P7505-3
P7505-1
E
D
C
B
A
1
2
3
4
5
6
7
8

MAIN SIGNAL PATH IN RECORD MODE.   MAIN SIGNAL PATH IN PLAYBACK MODE.

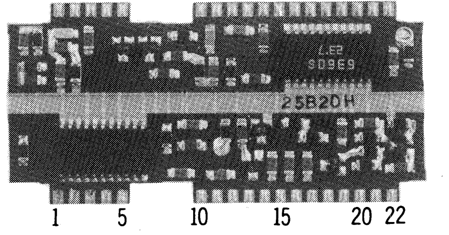
THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRAKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRAKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.


0.7Vp-p (REC)
1Vp-p (P.B)
1.3Vp-p (REC/P.B)
0.4Vp-p (REC)
0.5Vp-p (P.B)
0.4Vp-p (REC)
0.5Vp-p (P.B)
0.4Vp-p (REC/P.B)
0.7Vp-p (REC)
0.2Vp-p (P.B)
4Vp-p (REC/P.B)
IC3001
Y-3
AN6306S
AN6327S
0.2Vp-p (P.B)
0.3Vp-p (REC/P.B)
2Vp-p (REC/P.B)
1Vp-p (REC)
0.6Vp-p (P.B)
2Vp-p (REC/P.B)
1.2Vp-p (REC/P.B)
0.6Vp-p (REC)
0.5Vp-p (P.B)
1.2Vp-p (P.B)
0.7Vp-p (REC)
1Vp-p (P.B)
H
V
50
45
40
35
30
26
1
5
10
20
25
25C20H

IC3001 (Y-3)

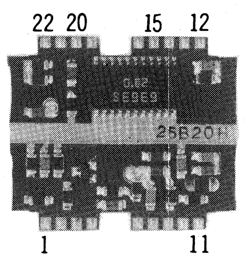

0.3Vp-p (REC/P.B)
0.7Vp-p (REC/P.B)
1.5Vp-p (REC/P.B)
0.3Vp-p (P.B)
0.8Vp-p (REC/P.B)
0.5Vp-p (REC/P.B)
IC8001
C-3
AN6360S
AN6371S
0.2Vp-p (REC/P.B)
1.2Vp-p (REC/P.B)
0.3Vp-p (P.B)
0.3Vp-p (REC)
1Vp-p (P.B)
1.5Vp-p (REC/P.B)
1Vp-p (REC/P.B)
1.2Vp-p (REC/P.B)
1Vp-p (REC/P.B)
H

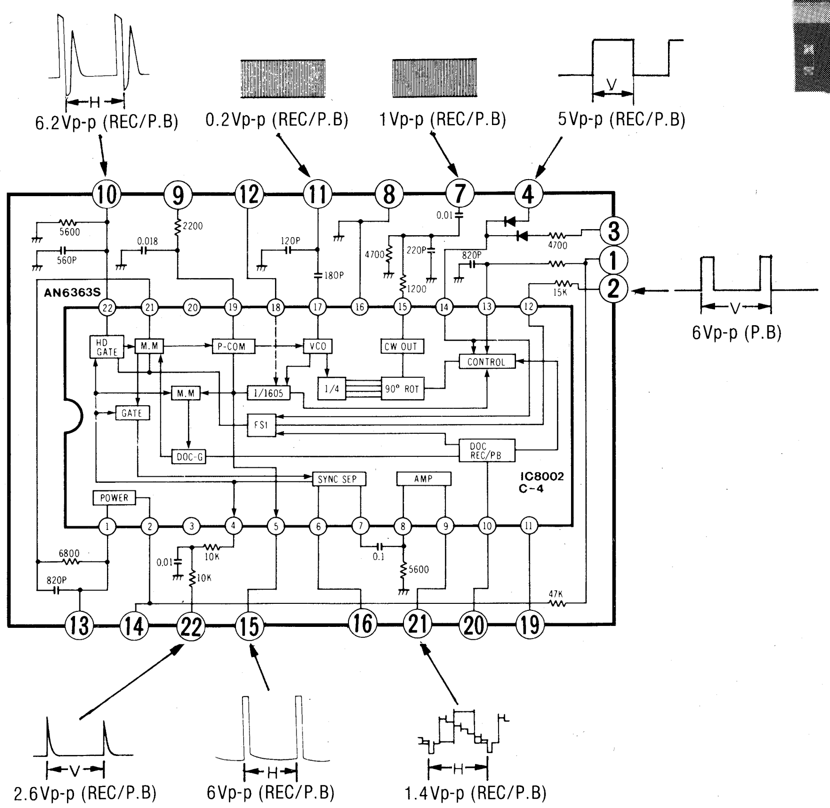
6Vp-p (REC/P.B)


50
40
35
30
25
23
25B20H
1
5
10
15
20
22

IC8001 (C-3)

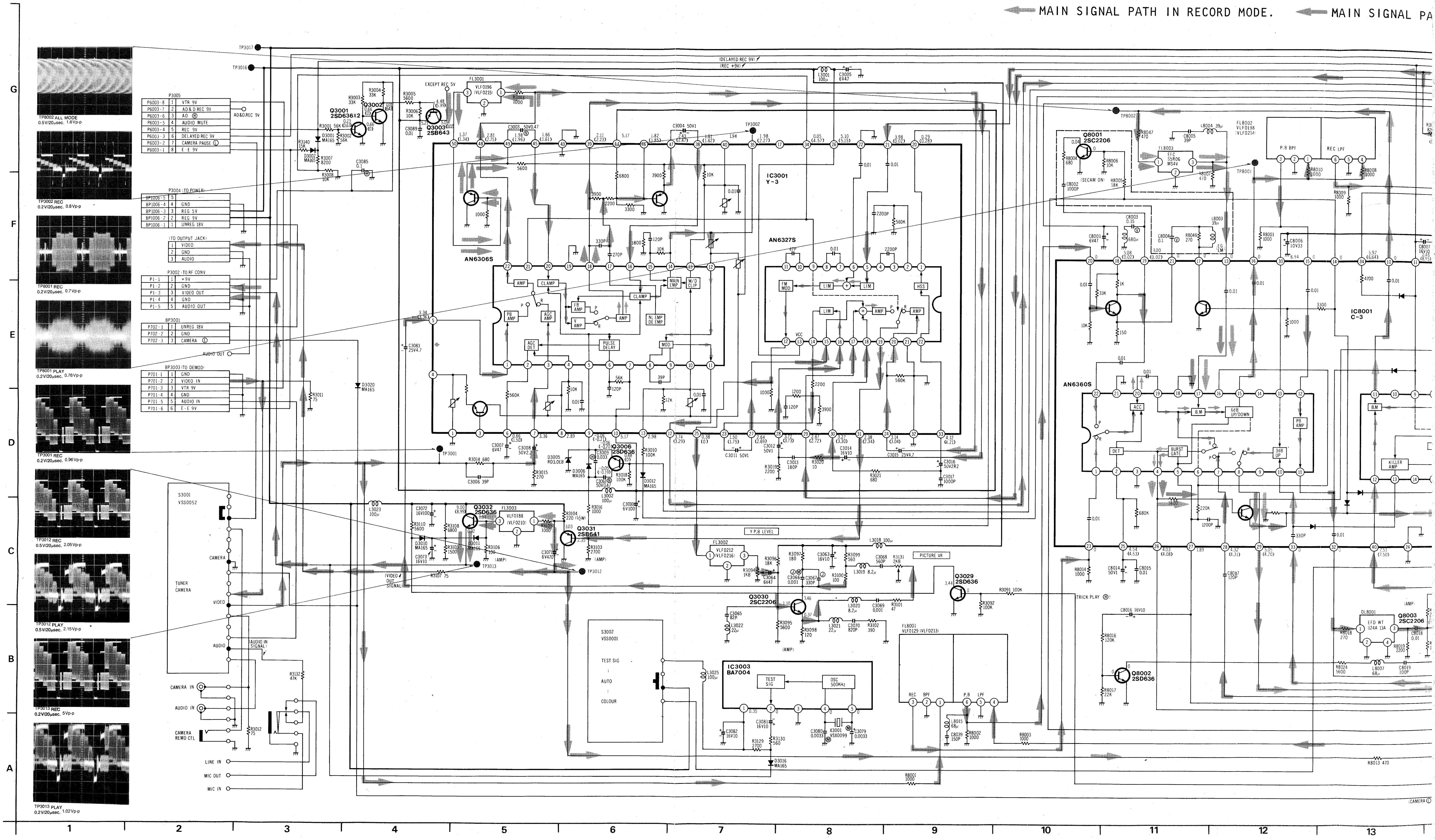
IC8002 (C-4)


22
20
15
12
25B20H
1
11


6.2Vp-p (REC/P.B)
0.2Vp-p (REC/P.B)
1Vp-p (REC/P.B)
5Vp-p (REC/P.B)
AN6363S
IC8002
C-4
6Vp-p (P.B)
2.6Vp-p (REC/P.B)
6Vp-p (REC/P.B)
1.4Vp-p (REC/P.B)
H
V

LUMINANCE, CHROMINANCE SCHEMATIC DIAGRAM

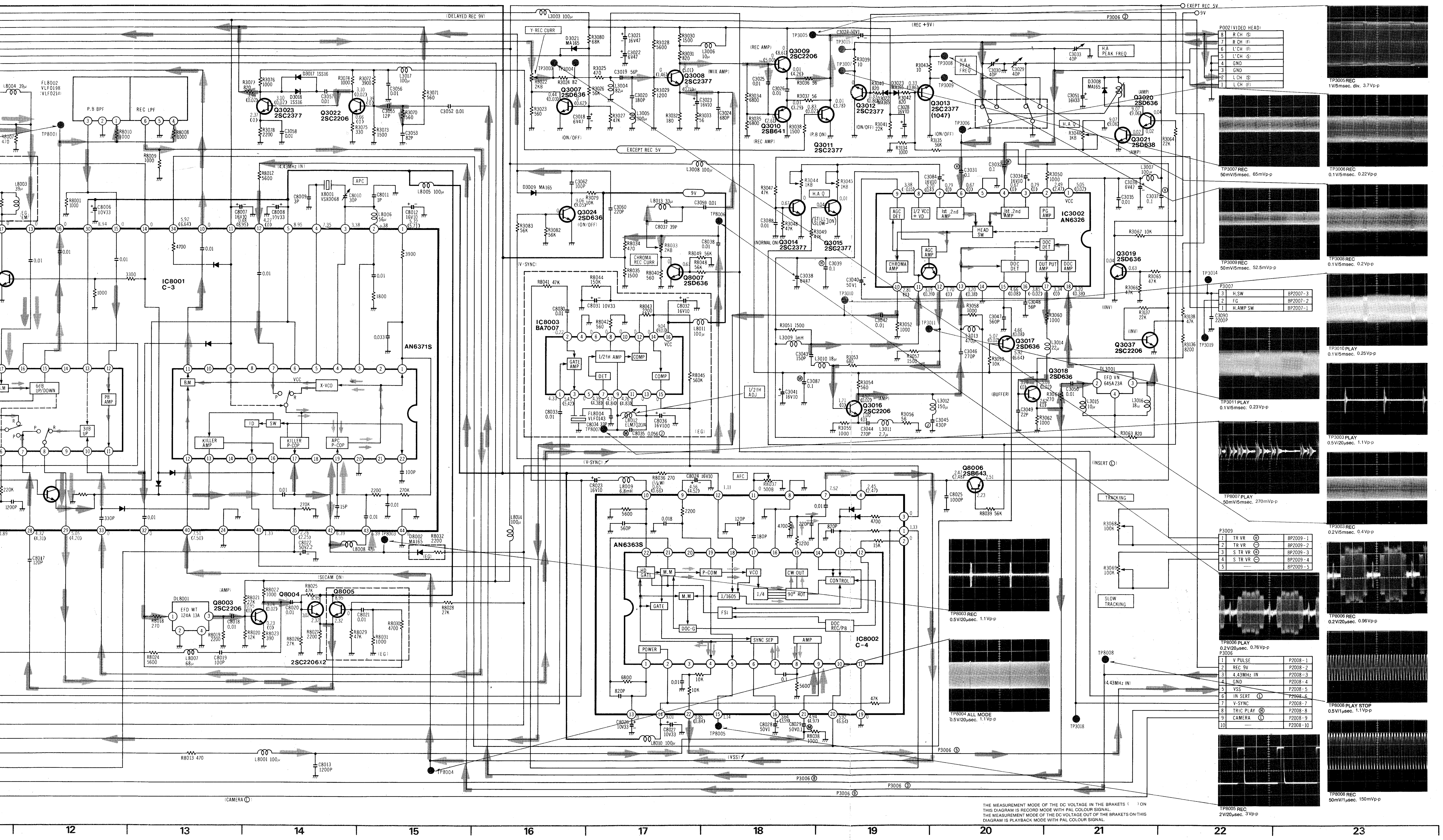
MAIN SIGNAL PATH IN RECORD MODE.   MAIN SIGNAL PA



TP8002 ALL MODE 0.5V/20μsec. 1.6Vp-p
TP3002 REC 0.2V/20μsec. 0.8Vp-p
TP8001 REC 0.2V/20μsec. 0.7Vp-p
TP8001 PLAY 0.2V/20μsec. 0.76Vp-p
TP3001 REC 0.2V/20μsec. 0.96Vp-p
TP3012 REC 0.5V/20μsec. 2.05Vp-p
TP3012 PLAY 0.5V/20μsec. 2.15Vp-p
TP3013 REC 0.2V/20μsec. 5Vp-p
TP3013 PLAY 0.2V/20μsec. 1.02Vp-p
TP3017
TP3016
P3005
P3004 (TO POWER)
(TO OUTPUT JACK)
P3002 (TO RF CONV)
BP3001
BP3003 (TO DEMOD)
Q3001 2SD636X2
Q3002
Q3003 2SB643
FL3001 VLF0196 (VLF0215)
IC3001 Y-3
AN6306S
AN6327S
Q3006 2SD636
Q3032 2SD636
FL3003 VLF0188 (VLF0210)
Q3031 2SB641
S3001 VSS0052
CAMERA
TUNER CAMERA
VIDEO
AUDIO
CAMERA IN
AUDIO IN
CAMERA REMO CTL
LINE IN
MIC OUT
MIC IN
AUDIO OUT
(VIDEO OUT SIGNAL)
(AUDIO IN SIGNAL)
S3002 VSS0001
TEST SIG
AUTO
COLOUR
IC3003 BA7004
TEST SIG
OSC 500KHz
FL3002 VLF0212 (VLF0216)
Y.P.B LEVEL
PICTURE VR
Q3030 2SC2206
Q3029 2SD636
FL8001 VLF0129 (VLF0213)
REC BPF
P.B LPF
TRICK PLAY
Q8001 2SC2206
FL8003 EFC S5R06 MS4V
(SECAM ON)
FL8002 VLF0198 (VLF0214)
P.B BPF
REC LPF
TP8002
TP8001
AN6360S
IC8001 C-3
Q8002 2SD636
DL8001 EFD WT 124A 13A
Q8003 2SC2206
(CAMERA)
(DELAYED REC 9V)
(REC +9V)
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12
13

Refer to page 3-18 for the waveforms of the FICs, IC3001, IC8002 and IC8003.

ECORD MODE. ⇐ MAIN SIGNAL PATH IN PLAYBACK MODE.

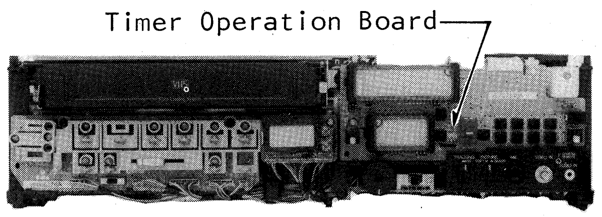

IC8001 C-3
AN6371S
IC8003 BA7007
IC8002 C-4
AN6363S
IC3002 AN6326
Q3007 2SD636
Q3008 2SC2377
Q3009 2SC2206
Q3010 2SB641
Q3011 2SC2377
Q3012 2SC2377
Q3013 2SC2377 (1047)
Q3014 2SC2377
Q3015 2SC2377
Q3016 2SC2206
Q3017 2SD636
Q3018 2SD636
Q3019 2SD636
Q3020 2SD636
Q3021 2SD638
Q3022 2SC2206
Q3023 2SC2377
Q3024 2SD636
Q3037 2SC2206
Q8003 2SC2206
Q8004
Q8005
2SC2206×2
Q8006 2SB643
Q8007 2SD636
P002 (VIDEO HEAD)
P3007
P3009
P3006
TP3005 REC 1V/5msec. div. 3.7Vp-p
TP3007 REC 50mV/5msec. 65mVp-p
TP3006 REC 0.1V/5msec. 0.22Vp-p
TP3009 REC 50mV/5msec. 52.5mVp-p
TP3008 REC 0.1V/5msec. 0.2Vp-p
TP3010 PLAY 0.1V/5msec. 0.25Vp-p
TP3011 PLAY 0.1V/5msec. 0.23Vp-p
TP3003 PLAY 0.5V/20μsec. 1.1Vp-p
TP8007 PLAY 50mV/5msec. 270mVp-p
TP3003 REC 0.2V/5msec. 0.4Vp-p
TP8006 PLAY 0.2V/20μsec. 0.76Vp-p
TP8006 REC 0.2V/20μsec. 0.96Vp-p
TP8008 PLAY STOP 0.5V/1μsec. 1.1Vp-p
TP8005 REC 2V/20μsec. 3Vp-p
TP8008 REC 50mV/1μsec. 150mVp-p
TP8003 REC 0.5V/20μsec. 1.1Vp-p
TP8004 ALL MODE 0.5V/20μsec. 1.1Vp-p
12
13
14
15
16
17
18
19
20
21
22
23

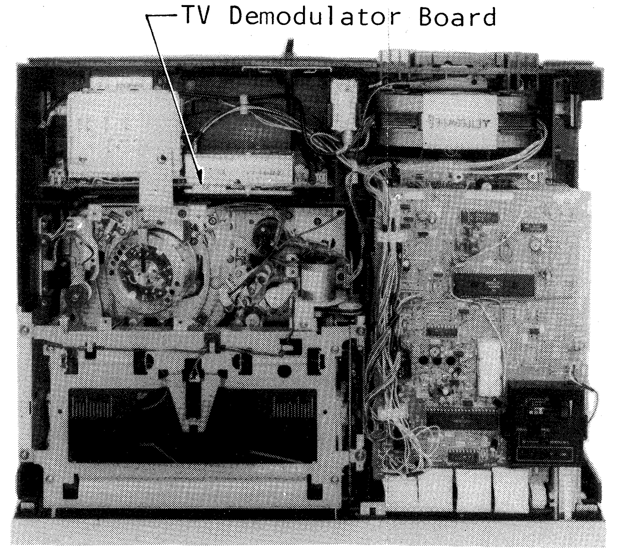
THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRAKETS (　) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRAKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

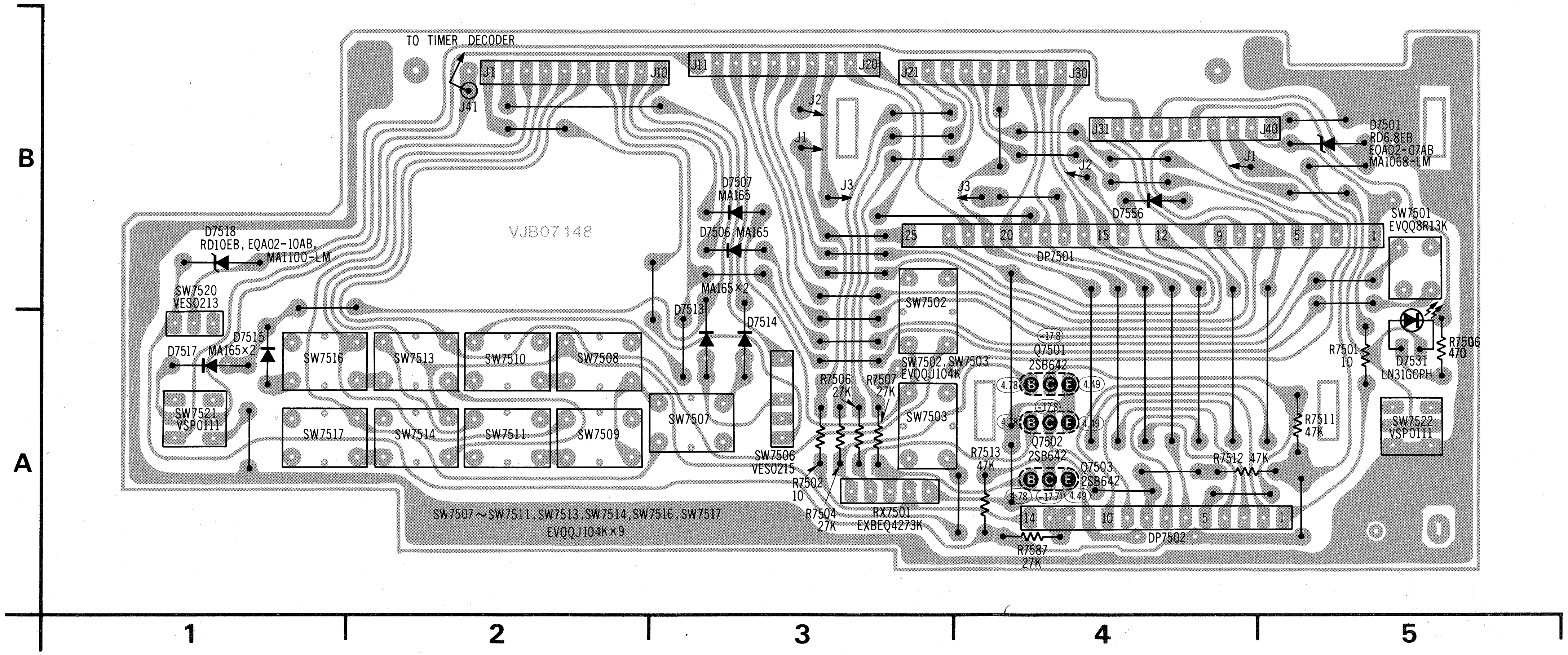
Luminance, Chrominance	
Luminance Section	
Q3001	G-4
Q3002	G-4
Q3003	G-4
Q3006	D-6
Q3007	G-16
Q3008	G-17
Q3009	G-18
Q3010	G-18
Q3011	G-18
Q3012	G-19
Q3013	G-19
Q3014	F-18
Q3015	F-19
Q3016	D-19
Q3017	E-20
Q3018	D-20
Q3019	E-21
Q3020	G-21
Q3021	G-21
Q3022	G-14
Q3023	G-14
Q3024	F-16
Q3029	C-9
Q3030	B-8
Q3031	C-6
Q3032	C-5
Q3037	E-21
IC3001	F-7
IC3002	E-20
IC3003	B-7
Chrominance Section	
Q8001	G-10
Q8002	B-11
Q8003	B-14
Q8004	B-14
Q8005	B-14
Q8006	C-20
Q8007	F-17
IC8001	D-13
IC8002	B-18
IC8003	D-16

TIMER OPERATION BOARD (VEP07148A)

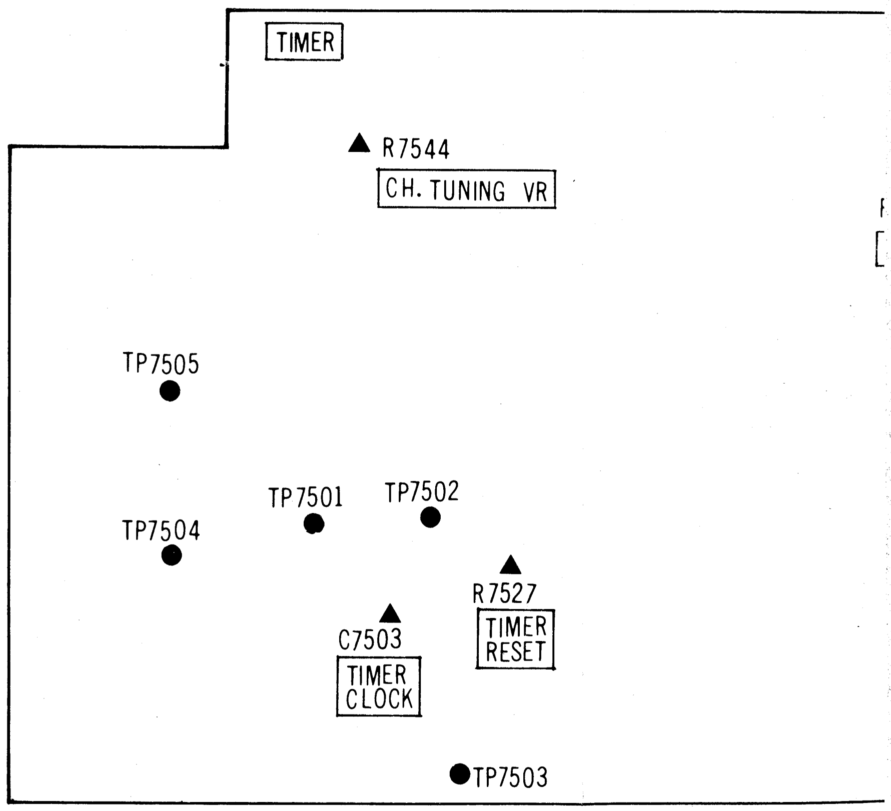
Timer Operation C.B.A	
Q7501	A-4
Q7502	A-4
Q7503	A-4


Timer Operation Board


TV Demodulator Board

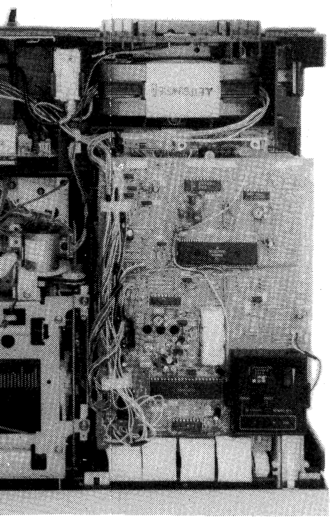


TO TIMER DECODER
J1
J10
J11
J20
J21
J30
J41
J2
J1
J3
J3
J31
J40
J2
J1
D7501
RD6.8EB
EQA02-07AB
MA1068-LM
D7507
MA165
D7506 MA165
VJB07148
D7518
RD10EB, EQA02-10AB,
MA1100-LM
SW7520
VES0213
D7515
D7517 MA165×2
MA165×2
D7513
D7514
D7556
SW7516
SW7513
SW7510
SW7508
SW7521
VSP0111
SW7517
SW7514
SW7511
SW7509
SW7507
SW7506
VES0215
R7506
27K
R7507
27K
SW7502
SW7502, SW7503
EVQQU104K
SW7503
25
20
15
12
9
5
1
DP7501
SW7501
EVQQ8R13K
R7506
470
R7501
10
D7531
LN31GCPH
-17.8
Q7501
2SB642
4.78
4.49
-17.8
Q7502
2SB642
Q7503
2SB642
-17.7
R7511
47K
R7512 47K
R7513
47K
SW7522
VSP0111
R7502
10
R7504
27K
RX7501
EXBEQ4273K
R7587
27K
14
10
5
1
DP7502
SW7507～SW7511, SW7513, SW7514, SW7516, SW7517
EVQQJ104K×9
B
A
1
2
3
4
5

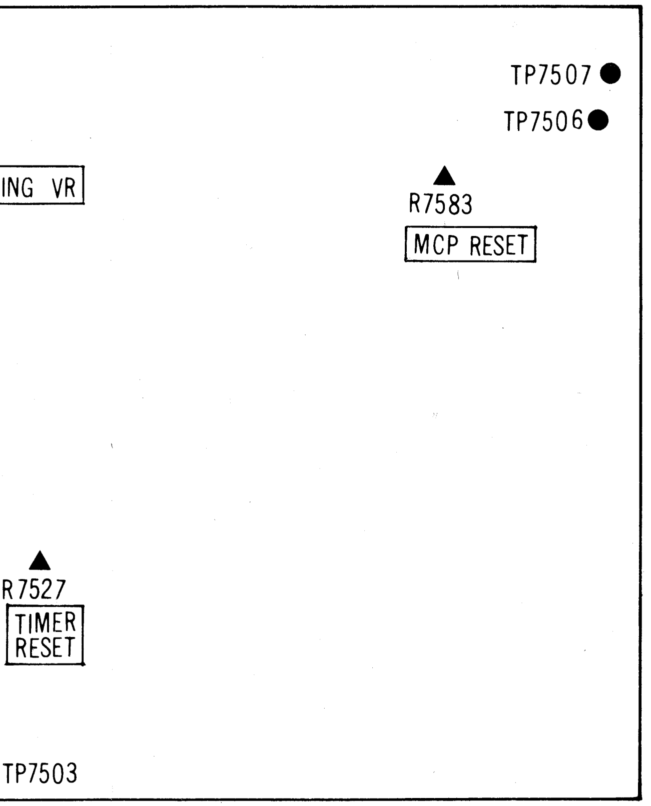


TIMER
R7544
CH. TUNING VR
TP7505
TP7501
TP7502
TP7504
R7527
TIMER RESET
C7503
TIMER CLOCK
TP7503

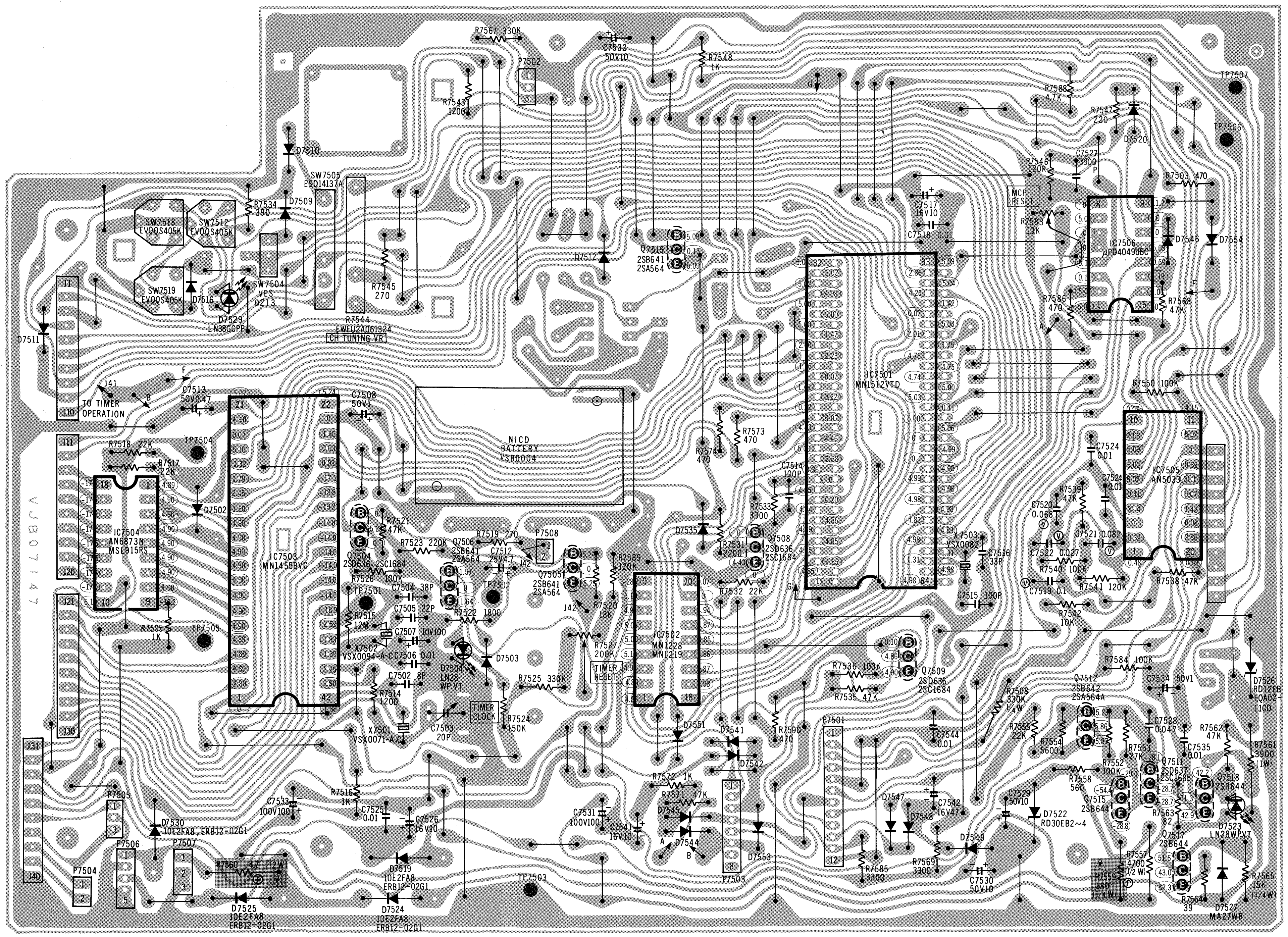
odulator Board



Timer Decoder C.B.A	
Q7504	C-2
Q7505	C-3
Q7506	C-3
Q7508	C-4
Q7509	C-5
Q7511	B-6
Q7512	B-5
Q7515	B-5
Q7517	B-6
Q7518	B-6
Q7519	D-3
IC7501	D-4
IC7502	C-4
IC7503	C-2
IC7504	C-1
IC7505	D-6
IC7506	E-5


TP7507
TP7506
ING VR
R7583
MCP RESET
R7527
TIMER
RESET
TP7503

TIMER DECODER BOARD (VEP07147A: NV-777E, EG)


E
D
C
B
A
1
2
3
4
5
6
VJB07147
IC7501
MN1512VTD
IC7502
MN1228
MN1219
IC7503
MN1455BVC
IC7504
AN6873N
MSL915RS
IC7505
AN5033
IC7506
μPD4049UBC
NICD
BATTERY
VSB0004
TO TIMER
OPERATION
CH TUNING VR
MCP
RESET
TIMER
RESET
TIMER
CLOCK
SW7505
SW7518
SW7512
SW7519
SW7504
TP7501
TP7502
TP7503
TP7504
TP7505
TP7506
TP7507
P7501
P7502
P7503
P7504
P7505
P7506
P7507
P7508
X7501
VSX0071-A
X7502
VSX0094-A
X7503
VSX0082

P7504	
1	AC2.6V
2	AC2.6V

P7505	
1	DOLBY LED
2	GND
3	DOLBY SW

P7506	
1	REG 6V
2	GND
3	+45V
4	GND
5	GND

P7507	
1	AC 40V
2	GND
3	GND

P7508	
1	BACK UP
2	BACK UP

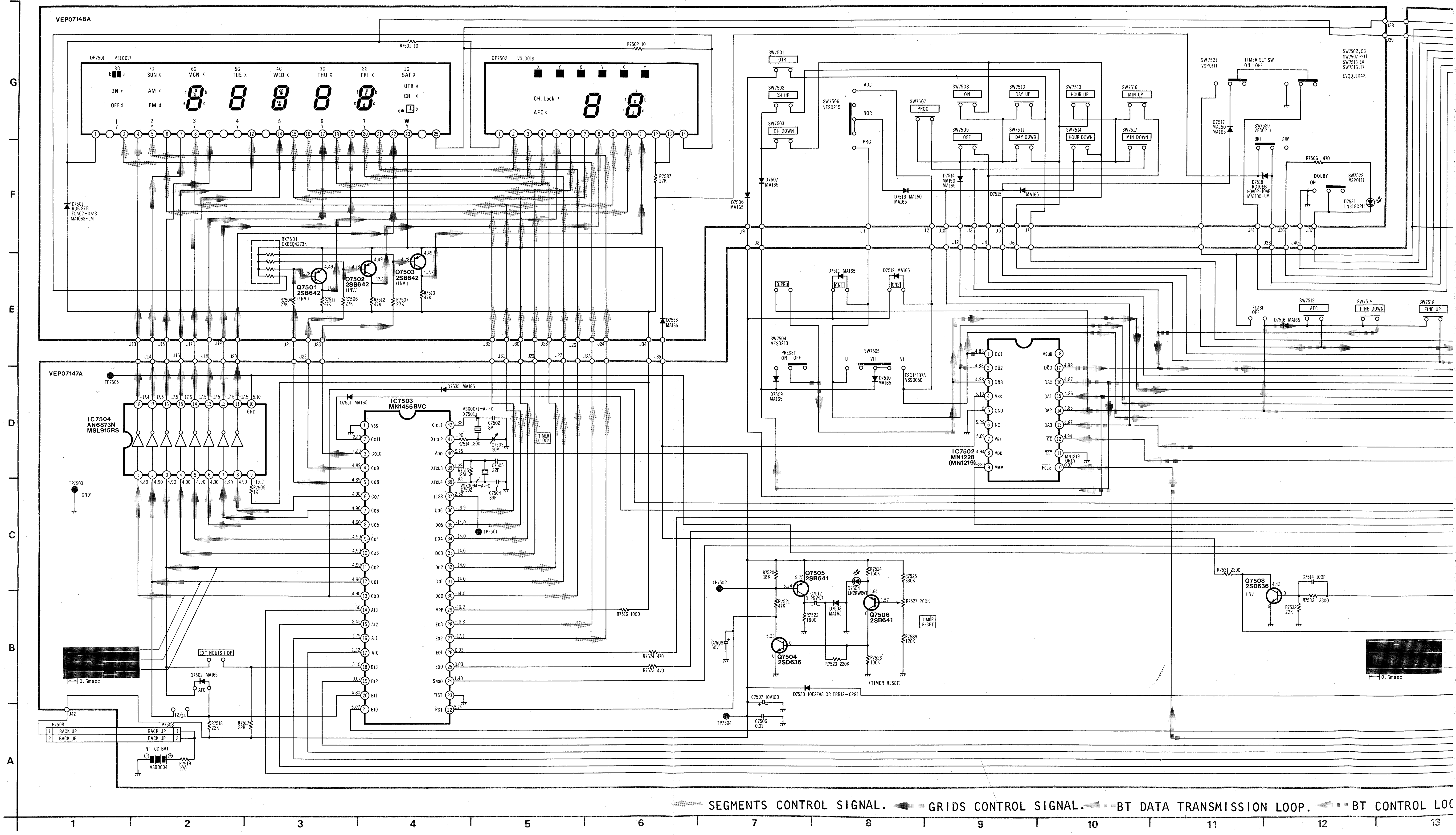
P7503	
1	SERIAL CLOCK
2	SERIAL DATA
3	POWER SW
4	POWER ON Ⓛ
5	POWER OUT
6	TIMER SET OUT
7	(GND)
8	――――

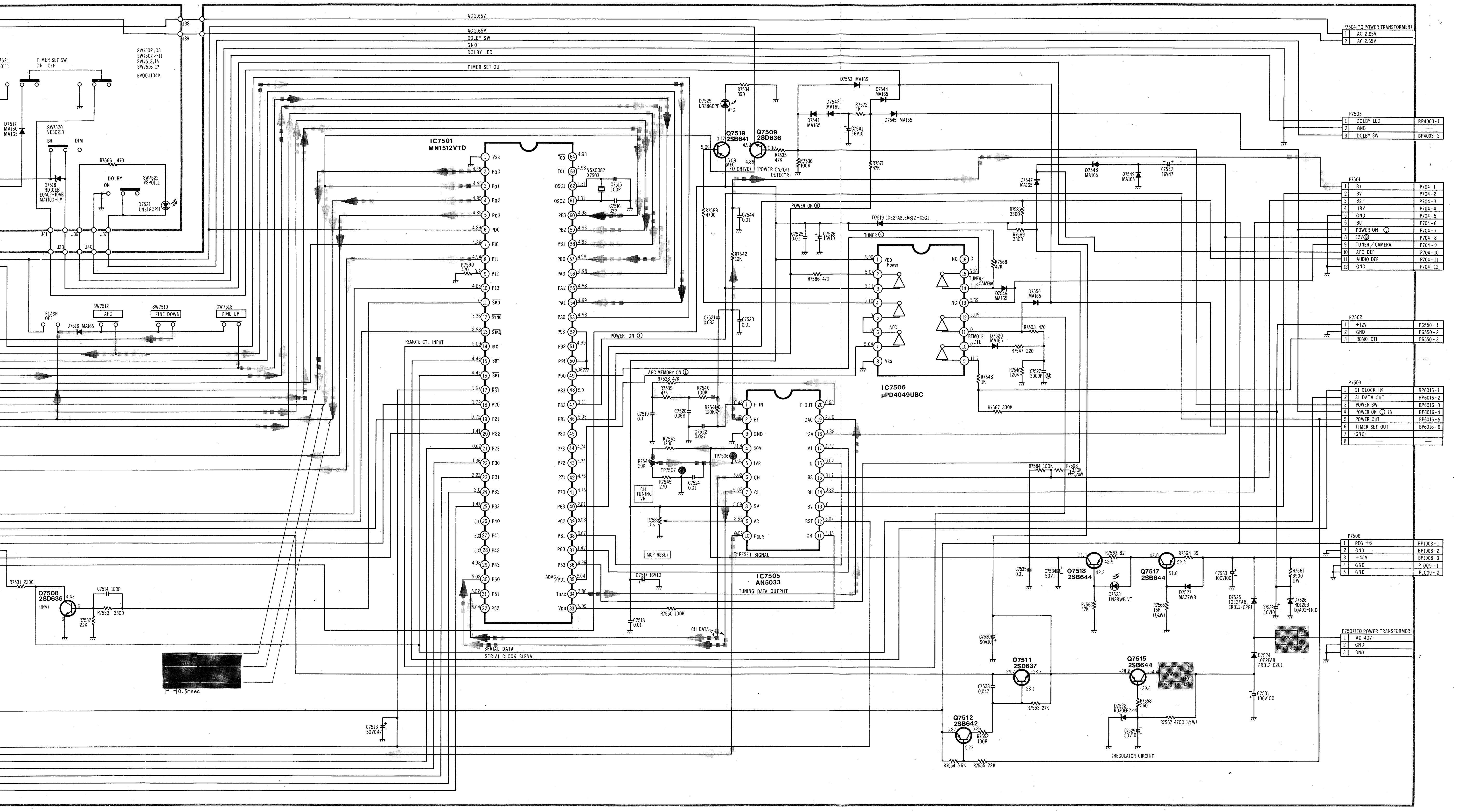
P7501	
1	BT
2	BV
3	BS
4	――
5	GND
6	BU
7	POWER ON Ⓛ
8	12VB
9	TUNER/CAMERA
10	AFC DEF
11	AUDIO DEF
12	GND

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165

Timer Decorder & Timer Operation	
Timer Operation Section	
Q7501	E-3
Q7502	E-4
Q7503	E-4
Timer Decoder Section	
Q7504	B-7
Q7505	C-8
Q7506	B-8
Q7508	C-11
Q7509	G-18
Q7511	B-20
Q7512	A-19
Q7515	B-21
Q7517	C-21
Q7518	C-20
Q7519	G-17
IC7501	F-15
IC7502	D-9
IC7503	D-4
IC7504	D-1
IC7505	C-18
IC7506	D-19

TIMER DECODER & TIMER OPERATION SCHEMATIC DIAGRAM (NV-777E, EG)

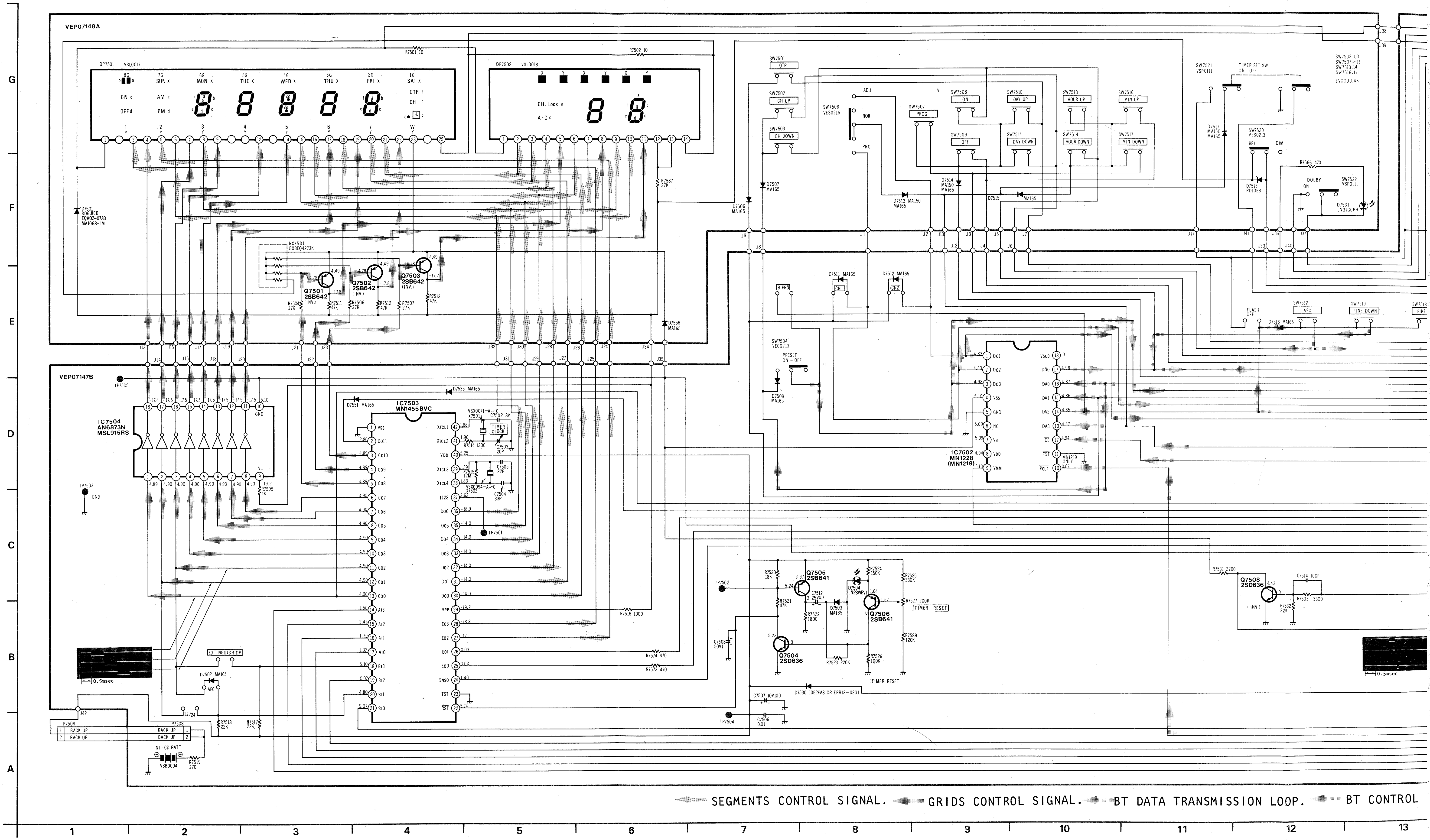

VEP07148A
VEP07147A
DP7501 VSL0017
8G 7G 6G 5G 4G 3G 2G 1G
SUN MON TUE WED THU FRI SAT
ON OFF AM PM OTR CH
DP7502 VSL0018
CH. Lock AFC
R7501 10
R7502 10
R7587 27K
D7501 RD6.8EB EQA02-07AB MA1068-LM
RX7501 EXBEQ4273K
Q7501 2SB642 (INV.)
Q7502 2SB642 (INV.)
Q7503 2SB642 (INV.)
R7504 27K
R7511 47K
R7506 27K
R7512 47K
R7507 27K
R7513 47K
D7556 MA165
IC7504 AN6873N MSL915RS
TP7505
TP7503 (GND)
R7505 1K
IC7503 MN1455BVC
D7551 MA165
D7535 MA165
VSX0071-A-C X7501
C7502 8P
R7514 1200
C7503 20P
TIMER CLOCK
C7505 22P
R7515 12M
VSX0094-A-C X7502
C7504 33P
TP7501
R7516 1000
R7574 470
R7573 470
EXTINGUISH DP
D7502 MA165
AFC
0.5msec
J42
P7508
BACK UP
NI-CD BATT VSB0004
R7519 270
R7518 22K
R7517 22K
SW7501 OTR
SW7502 CH UP
SW7503 CH DOWN
SW7506 VES0215
ADJ NOR PRG
SW7507 PROG
SW7508 ON
SW7509 OFF
SW7510 DAY UP
SW7511 DAY DOWN
SW7513 HOUR UP
SW7514 HOUR DOWN
SW7516 MIN UP
SW7517 MIN DOWN
SW7521 VSP0111
TIMER SET SW ON - OFF
SW7502, 03 SW7507~11 SW7513, 14 SW7516, 17 EVQQJ104K
D7517 MA150 MA165
SW7520 VES0213 BRI DIM
D7518 RD10EB EQA02-10AB MA1100-LM
R7566 470
DOLBY ON
SW7522 VSP0111
D7531 LN31GCPH
D7507 MA165
D7506 MA165
D7513 MA150 MA165
D7514 MA150 MA165
D7515 MA165
D7511 MA165
D7512 MA165
B.PRO CN1 CN2
SW7504 VES0213 PRESET ON - OFF
SW7505 VH U VL
D7510 MA165
ESD14137A VSS0050
D7509 MA165
IC7502 MN1228 (MN1219)
MN1219 ONLY
SW7512 AFC
SW7519 FINE DOWN
SW7518 FINE UP
FLASH OFF
D7516 MA165
TP7502
Q7505 2SB641
Q7506 2SB641
Q7504 2SD636
R7520 18K
R7521 47K
C7512 0.25V4.7
R7522 1800
D7503 MA165
D7504 LN28WRVT
R7524 150K
R7525 330K
R7527 200K
R7589 120K
R7526 100K
R7523 220K
C7508 50V1
TIMER RESET
(TIMER RESET)
D7530 1OE2FA8 OR ERB12-02G1
C7507 10V100
C7506 0.01
TP7504
R7531 2200
Q7508 2SD636 (INV.)
C7514 100P
R7533 3300
R7532 22K
SEGMENTS CONTROL SIGNAL.
GRIDS CONTROL SIGNAL.
BT DATA TRANSMISSION LOOP.
BT CONTROL LO
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G

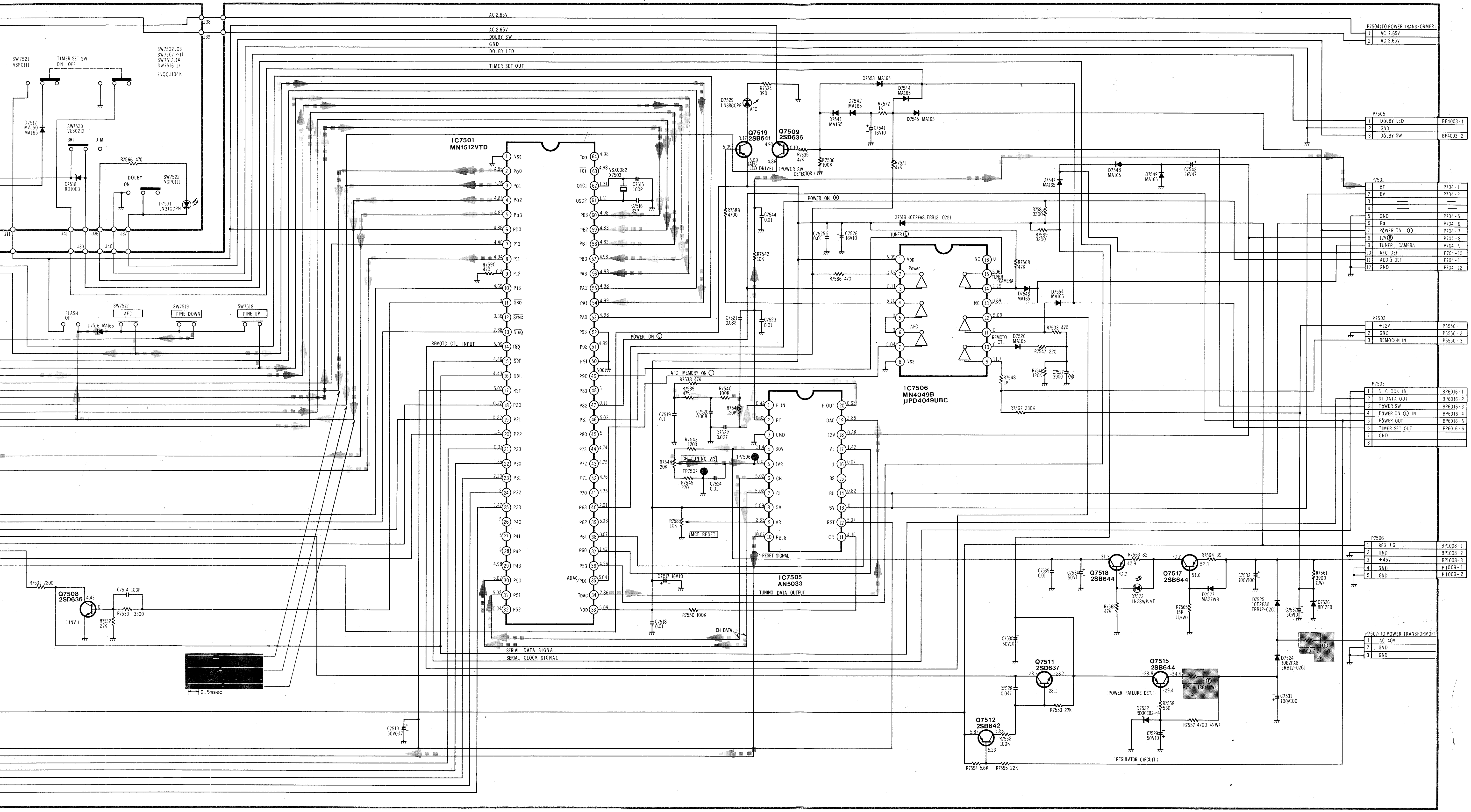

IC7501
MN1512VTD
IC7505
AN5033
IC7506
μPD4049UBC
Q7519 2SB641
Q7509 2SD636
Q7508 2SD636
Q7518 2SB644
Q7517 2SB644
Q7511 2SD637
Q7515 2SB644
Q7512 2SB642
X7503 VSX0082
TIMER SET SW ON - OFF
SW7502,03 SW7507~11 SW7513,14 SW7516,17 EVQQJ104K
SW7520 VES0213
BRI
DIM
DOLBY ON
SW7522 VSP0111
D7531 LN31GCPH
SW7512 AFC
SW7519 FINE DOWN
SW7518 FINE UP
FLASH OFF
AC 2.65V
DOLBY SW
GND
DOLBY LED
TIMER SET OUT
POWER ON Ⓗ
POWER ON Ⓛ
TUNER Ⓛ
REMOTE CTL INPUT
AFC MEMORY ON Ⓛ
CH TUNING VR
MCP RESET
RESET SIGNAL
TUNING DATA OUTPUT
SERIAL DATA
SERIAL CLOCK SIGNAL
CH DATA
(REGULATOR CIRCUIT)
0.5msec
P7504 (TO POWER TRANSFORMER)
P7505
P7501
P7502
P7503
P7506
P7507 (TO POWER TRANSFORMER)
1 DOLBY LED BP4003-1
2 GND
3 DOLBY SW BP4003-2
1 BT P704-1
2 BV P704-2
3 Bs P704-3
4 18V P704-4
5 GND P704-5
6 BU P704-6
7 POWER ON Ⓛ P704-7
8 12VⒷ P704-8
9 TUNER/CAMERA P704-9
10 AFC DEF P704-10
11 AUDIO DEF P704-11
12 GND P704-12
1 +12V P6550-1
2 GND P6550-2
3 REMO CTL P6550-3
1 SI CLOCK IN BP6016-1
2 SI DATA OUT BP6016-2
3 POWER SW BP6016-3
4 POWER ON Ⓛ IN BP6016-4
5 POWER OUT BP6016-5
6 TIMER SET OUT BP6016-6
7 (GND)
1 REG +6 BP1008-1
2 GND BP1008-2
3 +45V BP1008-3
4 GND P1009-1
5 GND P1009-2
1 AC 40V
2 GND
3 GND

SMISSION LOOP. ◄-- BT CONTROL LOOP.

11 12 13 14 15 16 17 18 19 20 21 22 23

TIMER DECODER & TIMER OPERATION SCHEMATIC DIAGRAM (NV-777B)

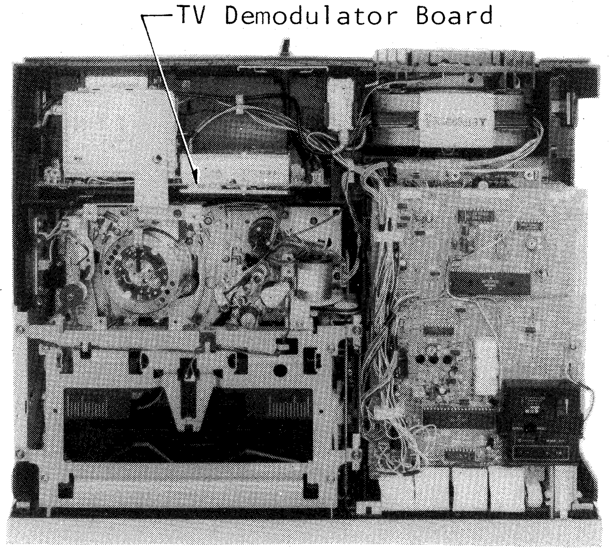

VEP07148A
VEP07147B
DP7501 VSL0017
DP7502 VSL0018
SUN MON TUE WED THU FRI SAT
ON
OFF
AM
PM
OTR
CH
CH. Lock
AFC
R7501 10
R7502 10
RX7501 EXBEQ4273K
Q7501 2SB642 (INV.)
Q7502 2SB642 (INV.)
Q7503 2SB642 (INV.)
D7501 RD6.8EB EQA02-07AB MA1068-LM
IC7504 AN6873N MSL915RS
IC7503 MN1455BVC
IC7502 MN1228 (MN1219)
TIMER CLOCK
X7501 VSX0071-A-C
X7502 VSX0094-A-C
SW7501 OTR
SW7502 CH UP
SW7503 CH DOWN
SW7504 VEC0213 PRESET ON - OFF
SW7506 VES0215 ADJ NOR PRG
SW7507 PROG
SW7508 ON
SW7509 OFF
SW7510 DAY UP
SW7511 DAY DOWN
SW7513 HOUR UP
SW7514 HOUR DOWN
SW7516 MIN UP
SW7517 MIN DOWN
SW7520 VES0213 BRI DIM
SW7521 VSP0111 TIMER SET SW ON OFF
SW7522 VSP0111 DOLBY ON
SW7512 AFC
SW7519 FINE DOWN
SW7518 FINE
SW7502,03 SW7507~11 SW7513,14 SW7516,17 EVQQJ104K
D7531 LN31GCPH
D7518 RD10EB
FLASH OFF
B.PRO
CN1
CN2
D7511 MA165
D7512 MA165
Q7505 2SB641
Q7506 2SB641
Q7504 2SD636
Q7508 2SD636 (INV.)
D7504 LN28WBVT
TIMER RESET
D7530 10E2FA8 OR ERB12-02G1
C7507 10V100
C7506 0.01
TP7501
TP7502
TP7503 GND
TP7504
TP7505
EXTINGUISH DP
D7502 MA165 AFC
P7508 BACK UP
NI-CD BATT VSB0004
R7519 270
0.5msec
SEGMENTS CONTROL SIGNAL.
GRIDS CONTROL SIGNAL.
BT DATA TRANSMISSION LOOP.
BT CONTROL
A B C D E F G
1 2 3 4 5 6 7 8 9 10 11 12 13

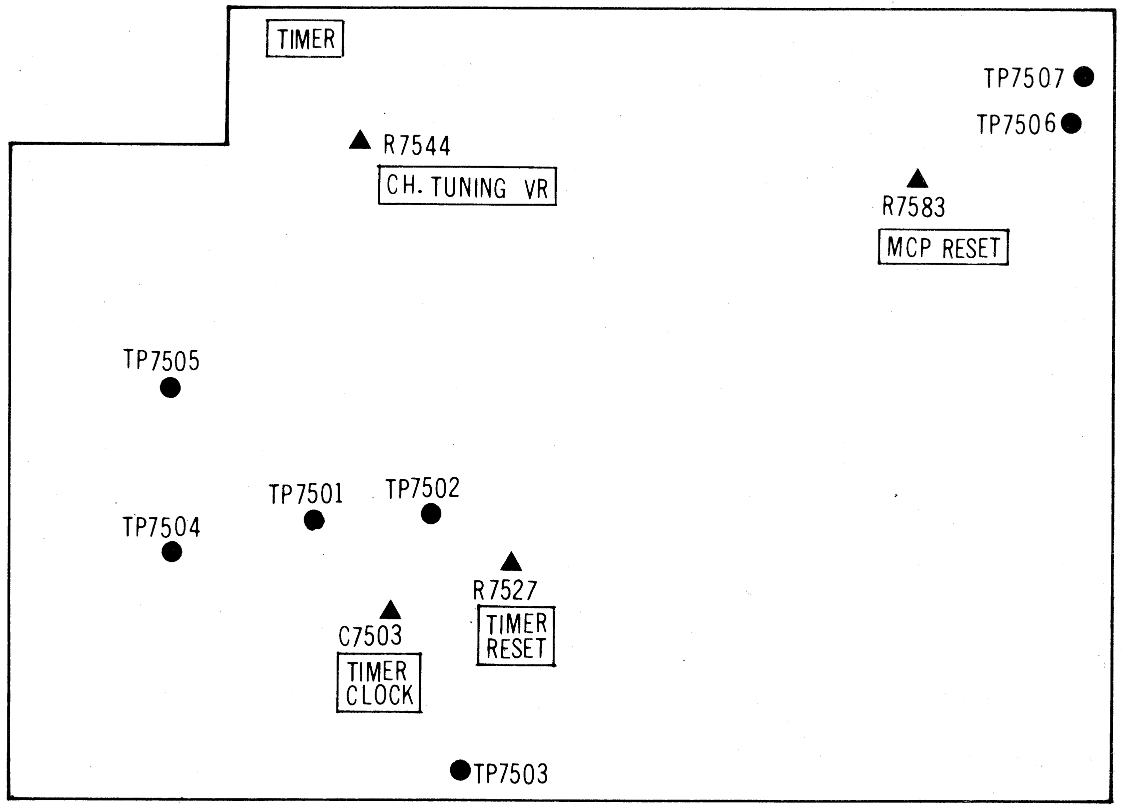

IC7501
MN1512VTD
IC7505
AN5033
IC7506
MN4049B
μPD4049UBC
Q7519
2SB641
Q7509
2SD636
Q7508
2SD636
(INV)
Q7518
2SB644
Q7517
2SB644
Q7511
2SD637
Q7515
2SB644
Q7512
2SB642
(POWER FAILURE DET.)
(REGULATOR CIRCUIT)
AC 2.65V
DOLBY SW
GND
DOLBY LED
TIMER SET OUT
P7504(TO POWER TRANSFORMER)
P7505
P7501
P7502
P7503
P7506
P7507(TO POWER TRANSFORMER)
SW7521
VSP0111
TIMER SET SW
ON OFF
SW7520
VESO213
BRI
DIM
DOLBY
ON
SW7522
VSP0111
SW7512
AFC
SW7519
FINE DOWN
SW7518
FINE UP
FLASH
OFF
POWER ON
AFC MEMORY ON
CH. TUNING VR
MCP RESET
RESET SIGNAL
TUNING DATA OUTPUT
SERIAL DATA SIGNAL
SERIAL CLOCK SIGNAL
REMOTO CTL INPUT
CH DATA
0.5msec

RANSMISSION LOOP. ◄■■ BT CONTROL LOOP.

1 12 13 14 15 16 17 18 19 20 21 22 23

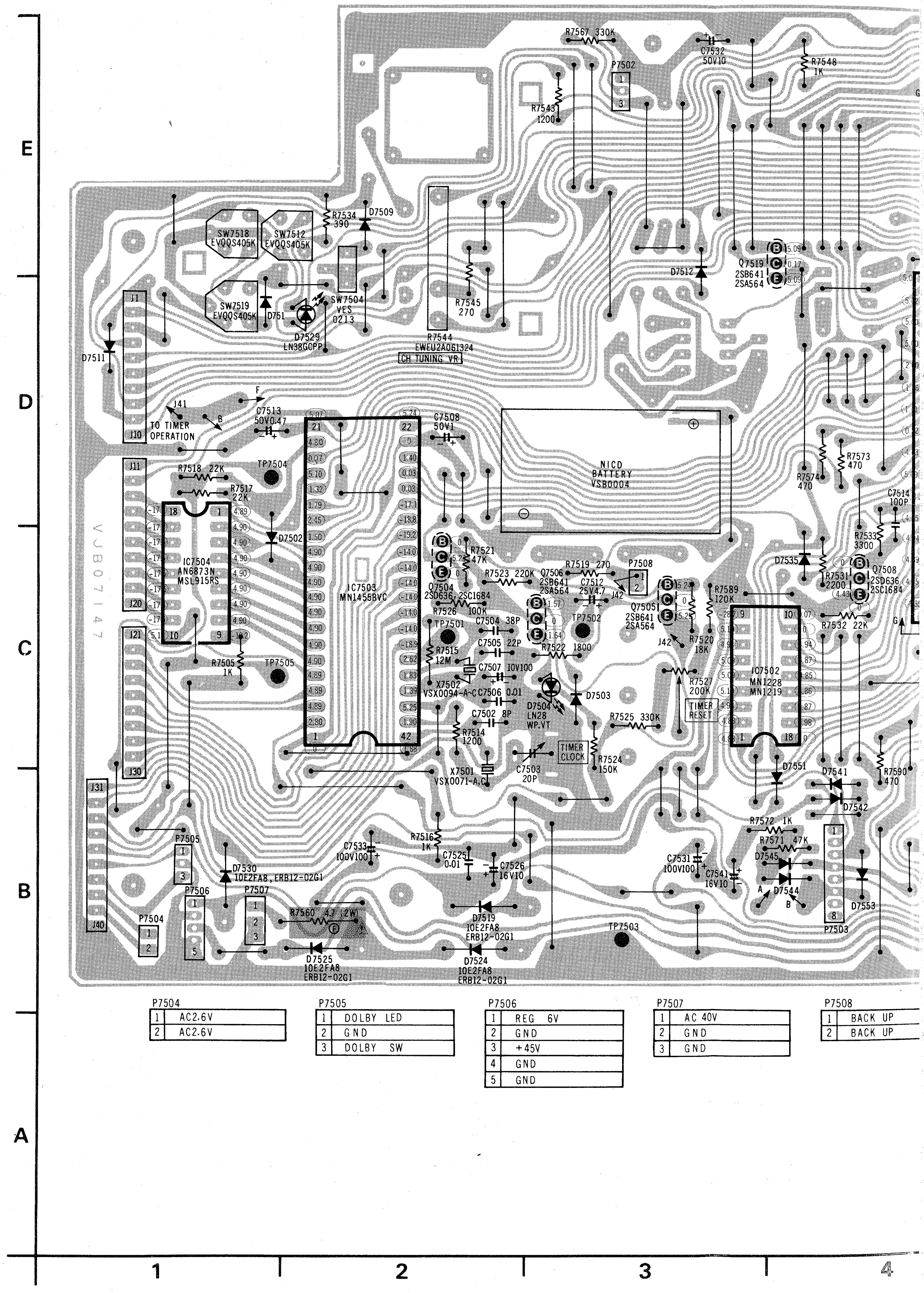
Timer Decorder & Timer Operation	
Timer Operation Section	
Q7501	E-3
Q7502	E-4
Q7503	E-4
Timer Decoder Section	
Q7504	B-7
Q7505	C-8
Q7506	B-8
Q7508	C-11
Q7509	G-18
Q7511	B-20
Q7512	A-19
Q7515	B-21
Q7517	C-21
Q7518	C-20
Q7519	G-17
IC7501	F-15
IC7502	D-9
IC7503	D-4
IC7504	D-1
IC7505	C-18
IC7506	D-19


TV Demodulator Board


TIMER
R7544
CH. TUNING VR
TP7507
TP7506
R7583
MCP RESET
TP7505
TP7501
TP7502
TP7504
R7527
TIMER RESET
C7503
TIMER CLOCK
TP7503

Timer Decoder C.B.A	
Q7504	C-2
Q7505	C-3
Q7506	C-3
Q7508	C-4
Q7509	C-5
Q7511	B-6
Q7512	B-5
Q7515	B-5
Q7517	B-6
Q7518	B-6
Q7519	D-3
IC7501	D-4
IC7502	C-4
IC7503	C-2
IC7504	C-1
IC7505	D-6
IC7506	E-5

TIMER DECODER BOARD (VEP07147B: NV-777B)


E
D
C
B
A
1
2
3
4
R7567 330K
C7532 50V10
R7548 1K
P7502
R7543 1200
R7534 390
D7509
SW7518 EVQQS405K
SW7512 EVQQS405K
SW7519 EVQQS405K
D751
SW7504 VES 0213
D7529 LN38GCPP
R7545 270
R7544 EWEU2A06I324
CH TUNING VR
D7512
Q7519 2SB641 2SA564
J1
D7511
J41 TO TIMER OPERATION
J10
C7513 50V0.47
C7508 50V1
NICD BATTERY VSB0004
R7574 470
R7573 470
C7514 100P
J11
R7518 22K
R7517 22K
TP7504
D7502
IC7504 AN6873N MSL915RS
IC7503 MN1455BVC
R7521 47K
R7523 220K
Q7506 2SB641 2SA564
R7519 270
C7512 25V4.7
P7508
J42
Q7504 2SD636 2SC1684
R7526 100K
TP7501
C7504 38P
TP7502
Q7505 2SB641 2SA564
R7589 120K
R7533 3300
D7535
R7531 2200
Q7508 2SD636 2SC1684
R7532 22K
J20
J21
R7515 12M
C7505 22P
R7522 1800
R7520 18K
R7505 1K
TP7505
C7507 10V100
X7502 VSX0094-A-C
C7506 0.01
D7504 LN28 WP-VT
D7503
R7527 200K
TIMER RESET
IC7502 MN1228 MN1219
C7502 8P
R7514 1200
R7525 330K
TIMER CLOCK
R7524 150K
J30
X7501 VSX0071-A,C
C7503 20P
D7551
D7541
D7542
R7590 470
J31
R7572 1K
R7571 47K
P7505
D7530 10E2FA8, ERB12-02G1
C7533 100V100
R7516 1K
C7525 0.01
C7526 16V10
C7531 100V100
C7541 16V10
D7545
D7544
D7553
P7506
P7507
P7504
J40
R7560 4.7 (2W)
D7519 10E2FA8 ERB12-02G1
D7525 10E2FA8 ERB12-02G1
D7524 10E2FA8 ERB12-02G1
TP7503
P7503
VJB07147

P7504	
1	AC2.6V
2	AC2.6V

P7505	
1	DOLBY LED
2	GND
3	DOLBY SW

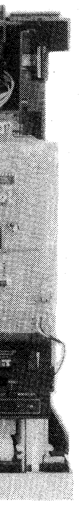
P7506	
1	REG 6V
2	GND
3	+45V
4	GND
5	GND

P7507	
1	AC 40V
2	GND
3	GND

P7508	
1	BACK UP
2	BACK UP

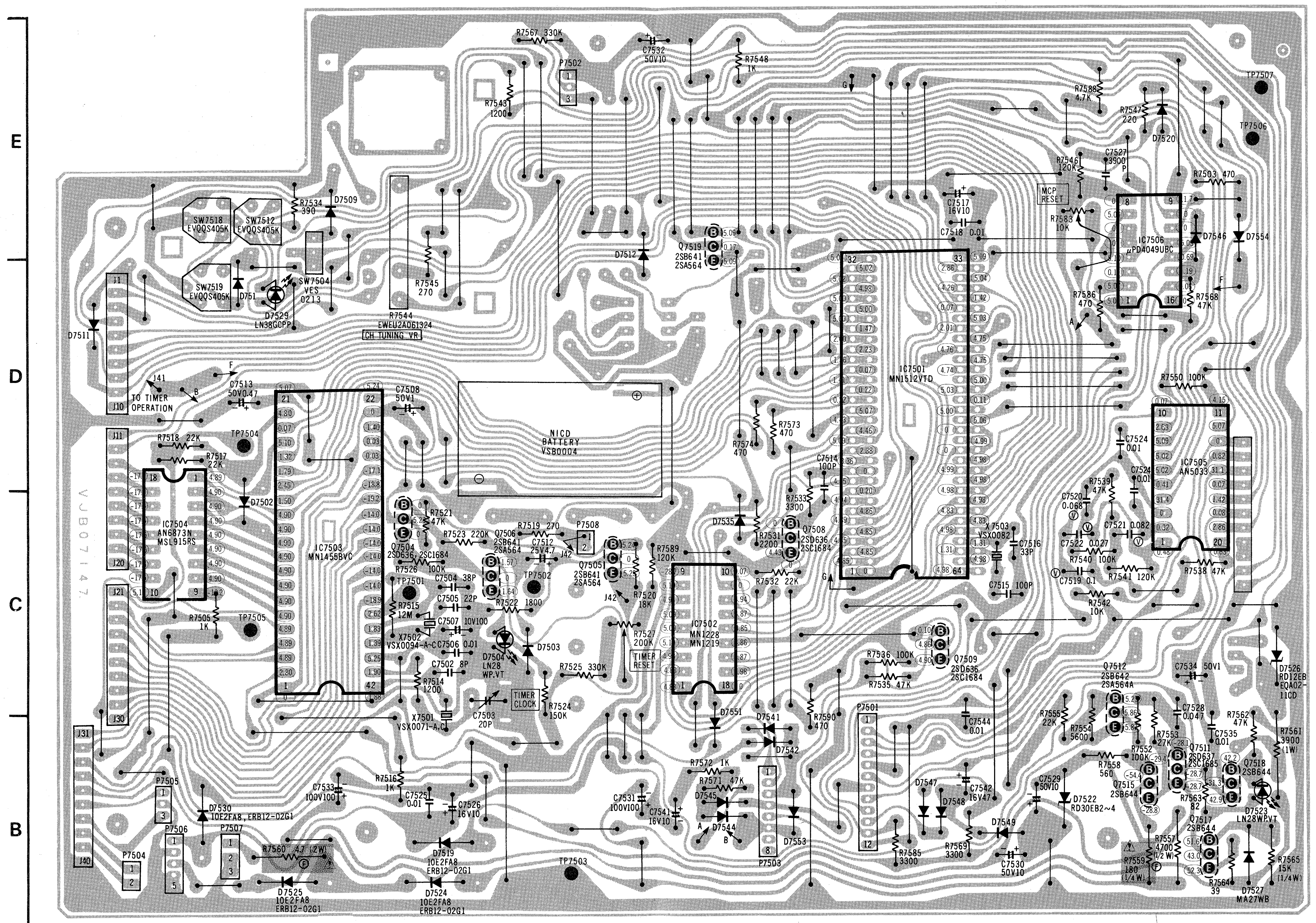
TIMER DECODER BOARD (VEP07147B: NV-777B)

Timer Decoder C.B.A	
Q7504	C-2
Q7505	C-3
Q7506	C-3
Q7508	C-4
Q7509	C-5
Q7511	B-6
Q7512	B-5
Q7515	B-5
Q7517	B-6
Q7518	B-6
Q7519	D-3
IC7501	D-4
IC7502	C-4
IC7503	C-2
IC7504	C-1
IC7505	D-6
IC7506	E-5



507●

06●


E
D
C
B
A
IC7501 MN1512VTD
IC7502 MN1228 MN1219
IC7503 MN1455BVC
IC7504 AN6873N MSL915RS
IC7505 AN5033
IC7506 μPD4049UBC
NICD BATTERY VSB0004
SW7518 EVQQS405K
SW7512 EVQQS405K
SW7519 EVQQS405K
SW7504 VES 0213
D7529 LN38GCPP
R7544 EWEU2A06I324
CH TUNING VR
TO TIMER OPERATION
X7501 VSX0071-A-C
X7502 VSX0094-A-C
X7503 VSX0082
TIMER CLOCK
TIMER RESET
MCP RESET
D7504 LN28 WP.VT
D7523 LN28WPVT
D7525 10E2FA8 ERB12-02G1
D7524 10E2FA8 ERB12-02G1
D7519 10E2FA8 ERB12-02G1
D7530 10E2FA8, ERB12-02G1
D7522 RD30EB2~4
D7526 RD12EB EQA02-11CD
D7527 MA27WB
R7560 4.7 (2W)
TP7501
TP7502
TP7503
TP7504
TP7505
TP7506
TP7507
P7501
P7502
P7503
P7504
P7505
P7506
P7507
P7508
J1
J10
J11
J20
J21
J30
J31
J40
VJB07147

P7504	
1	AC2.6V
2	AC2.6V

P7505	
1	DOLBY LED
2	GND
3	DOLBY SW

P7506	
1	REG 6V
2	GND
3	+45V
4	GND
5	GND

P7507	
1	AC 40V
2	GND
3	GND

P7508	
1	BACK UP
2	BACK UP

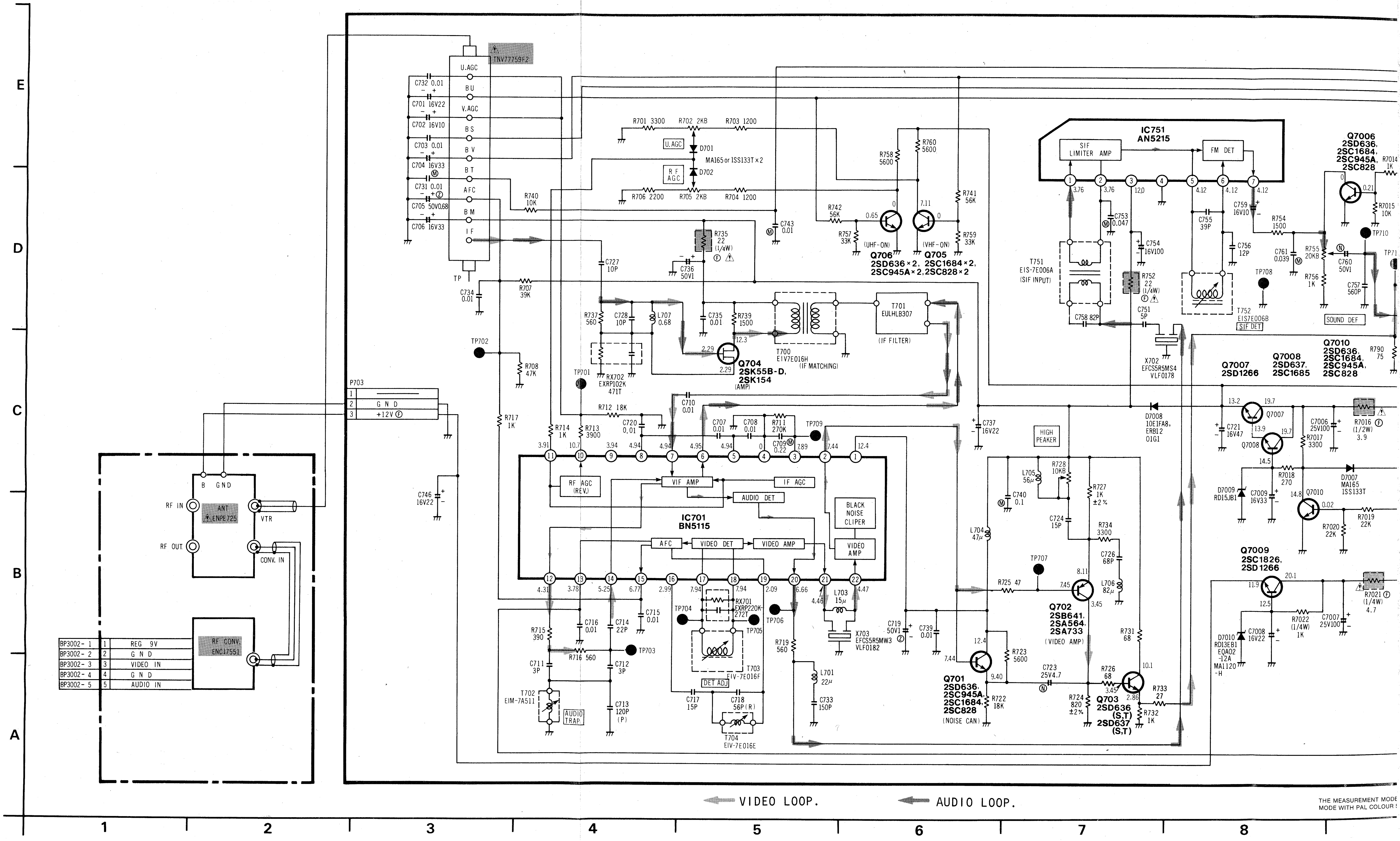
P7503	
1	SERIAL CLOCK
2	SERIAL DATA
3	POWER SW
4	POWER ON Ⓛ
5	POWER OUT
6	TIMER SET OUT
7	(GND)
8	———

P7501	
1	BT
2	———
3	———
4	———
5	GND
6	BU
7	POWER ON Ⓛ
8	12VB
9	TUNER/CAMERA
10	AFC DEF
11	AUDIO DEF
12	GND

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165

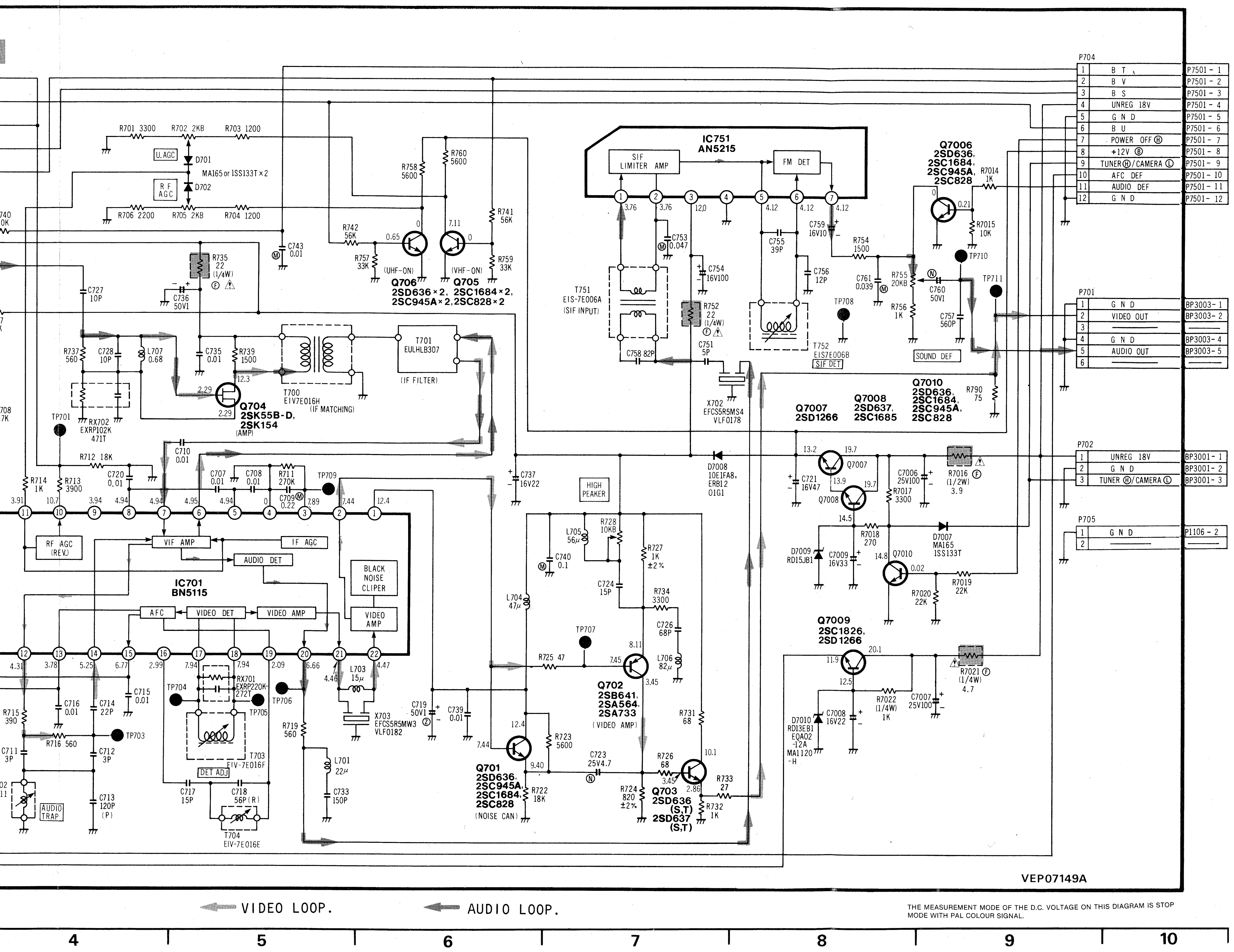
1 2 3 4 5 6

TV DEMODULATOR SCHEMATIC DIAGRAM (NV-777E, EG)


E
D
C
B
A
1
2
3
4
5
6
7
8
TNV77759F2
U.AGC
BU
V.AGC
BS
BV
BT
AFC
BM
IF
TP
C732 0.01
C701 16V22
C702 16V10
C703 0.01
C704 16V33
C731 0.01
C705 50V0.68
C706 16V33
C734 0.01
R707 39K
R740 10K
TP702
R708 47K
R717 1K
P703
GND
+12V
C746 16V22
B GND
RF IN
ANT
ENPE725
VTR
RF OUT
CONV. IN
RF CONV.
ENC17551
BP3002-1
BP3002-2
BP3002-3
BP3002-4
BP3002-5
REG 9V
GND
VIDEO IN
GND
AUDIO IN
R701 3300
R702 2KB
R703 1200
U.AGC
D701
MA165 or 1SS133T×2
RF AGC
D702
R706 2200
R705 2KB
R704 1200
R735 22 (1/4W)
C736 50V1
C727 10P
R737 560
C728 10P
L707 0.68
C735 0.01
R739 1500
Q704
2SK55B-D,
2SK154
(AMP)
T700
EIV7E016H
(IF MATCHING)
T701
EULHLB307
(IF FILTER)
RX702
EXRP102K
471T
TP701
C743 0.01
R758 5600
R760 5600
R742 56K
R757 33K
R741 56K
R759 33K
(UHF-ON)
(VHF-ON)
Q706
2SD636×2,
2SC945A×2,
Q705
2SC1684×2,
2SC828×2
R712 18K
R714 1K
R713 3900
C720 0.01
C710 0.01
C707 0.01
C708 0.01
R711 270K
C709 0.22
TP709
IC701
BN5115
RF AGC (REV.)
VIF AMP
IF AGC
AUDIO DET
BLACK NOISE CLIPER
AFC
VIDEO DET
VIDEO AMP
VIDEO AMP
R715 390
C716 0.01
C714 22P
C715 0.01
R716 560
TP703
C711 3P
C712 3P
T702
EIM-7A511
AUDIO TRAP
C713 120P (P)
TP704
RX701
EXRP220K-272T
TP705
TP706
T703
EIV-7E016F
DET ADJ
C717 15P
C718 56P(R)
T704
EIV-7E016E
L703 15μ
X703
EFCS5R5MW3
VLF0182
R719 560
L701 22μ
C733 150P
C719 50V1
C739 0.01
C737 16V22
HIGH PEAKER
L705 56μ
R728 10KB
R727 1K ±2%
C740 0.1
C724 15P
R734 3300
C726 68P
L704 47μ
TP707
R725 47
L706 82μ
Q702
2SB641,
2SA564,
2SA733
(VIDEO AMP)
R731 68
R723 5600
Q701
2SD636,
2SC945A,
2SC1684,
2SC828
(NOISE CAN)
R722 18K
C723 25V4.7
R726 68
R724 820 ±2%
Q703
2SD636 (S,T)
2SD637 (S,T)
R733 27
R732 1K
IC751
AN5215
SIF LIMITER AMP
FM DET
C753 0.047
C754 16V100
T751
EIS-7E006A
(SIF INPUT)
R752 22 (1/4W)
C751 5P
C758 82P
X702
EFCS5R5MS4
VLF0178
C755 39P
C756 12P
T752
EIS7E006B
SIF DET
C759 16V10
R754 1500
C761 0.039
R755 20KB
R756 1K
C760 50V1
C757 560P
TP708
TP710
SOUND DEF
Q7006
2SD636,
2SC1684,
2SC945A,
2SC828
R7014 1K
R7015 10K
D7008
10E1FA8,
ERB12
01G1
Q7007
2SD1266
Q7008
2SD637,
2SC1685
Q7010
2SD636,
2SC1684,
2SC945A,
2SC828
R790 75
C721 16V47
C7006 25V100
R7016 (1/2W)
R7017 3300
R7018 270
D7007
MA165
1SS133T
D7009
RD15JB1
C7009 16V33
R7020 22K
R7019 22K
Q7009
2SC1826,
2SD1266
R7021 (1/4W)
R7022 (1/4W) 1K
C7007 25V100
D7010
RD13EB1
EQA02-12A
MA1120-H
C7008 16V22
VIDEO LOOP.
AUDIO LOOP.

THE MEASUREMENT MODE
MODE WITH PAL COLOUR

V-777E, EG)


IC751 AN5215
SIF LIMITER AMP
FM DET
IC701 BN5115
VIF AMP
IF AGC
AUDIO DET
RF AGC (REV.)
BLACK NOISE CLIPER
VIDEO AMP
AFC
VIDEO DET
VIDEO AMP
Q706 2SD636×2, 2SC1684×2, 2SC945A×2, 2SC828×2 (UHF-ON)
Q705 (VHF-ON)
Q704 2SK55B-D, 2SK154 (AMP)
Q702 2SB641, 2SA564, 2SA733 (VIDEO AMP)
Q701 2SD636, 2SC945A, 2SC1684, 2SC828 (NOISE CAN)
Q703 2SD636 (S,T) 2SD637 (S,T)
Q7006 2SD636, 2SC1684, 2SC945A, 2SC828
Q7007 2SD1266
Q7008 2SD637, 2SC1685
Q7010 2SD636, 2SC1684, 2SC945A, 2SC828
Q7009 2SC1826, 2SD1266
T701 EULHLB307 (IF FILTER)
T700 EIV7E016H (IF MATCHING)
T751 EIS-7E006A (SIF INPUT)
T752 EIS7E006B SIF DET
T703 EIV-7E016F DET ADJ
T704 EIV-7E016E
X702 EFCS5R5MS4 VLF0178
X703 EFCS5R5MW3 VLF0182
U.AGC
RF AGC
D701 MA165 or 1SS133T×2
D702
HIGH PEAKER
AUDIO TRAP
SOUND DEF
P704
1 B T P7501-1
2 B V P7501-2
3 B S P7501-3
4 UNREG 18V P7501-4
5 G N D P7501-5
6 B U P7501-6
7 POWER OFF Ⓗ P7501-7
8 +12V Ⓑ P7501-8
9 TUNER Ⓗ/CAMERA Ⓛ P7501-9
10 AFC DEF P7501-10
11 AUDIO DEF P7501-11
12 G N D P7501-12
P701
1 G N D BP3003-1
2 VIDEO OUT BP3003-2
3
4 G N D BP3003-4
5 AUDIO OUT BP3003-5
6
P702
1 UNREG 18V BP3001-1
2 G N D BP3001-2
3 TUNER Ⓗ/CAMERA Ⓛ BP3001-3
P705
1 G N D P1106-2
2
TP701
TP703
TP704
TP705
TP706
TP707
TP708
TP709
TP710
TP711
VEP07149A
4
5
6
7
8
9
10

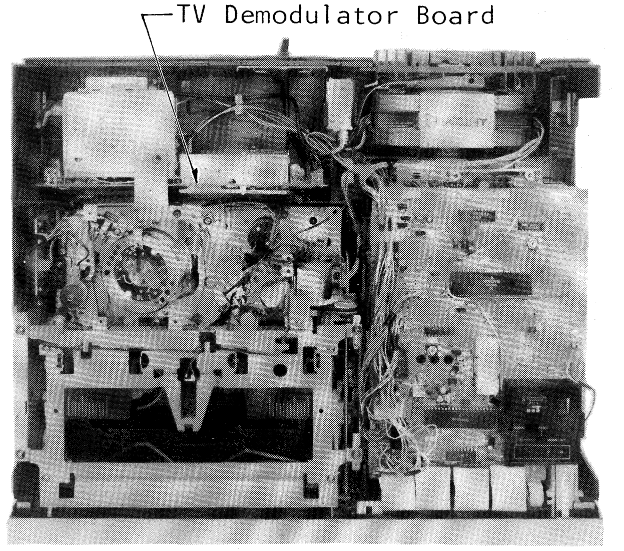
VIDEO LOOP.　AUDIO LOOP.

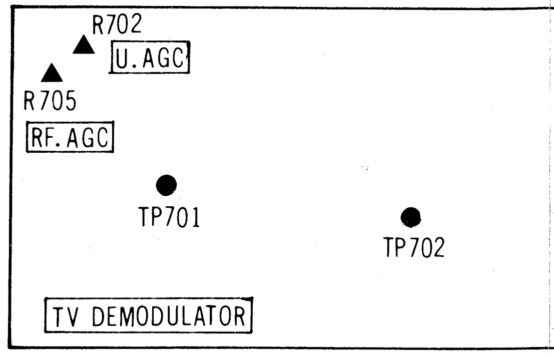
THE MEASUREMENT MODE OF THE D.C. VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL.

TV Demoludator (NV-777E, EG)

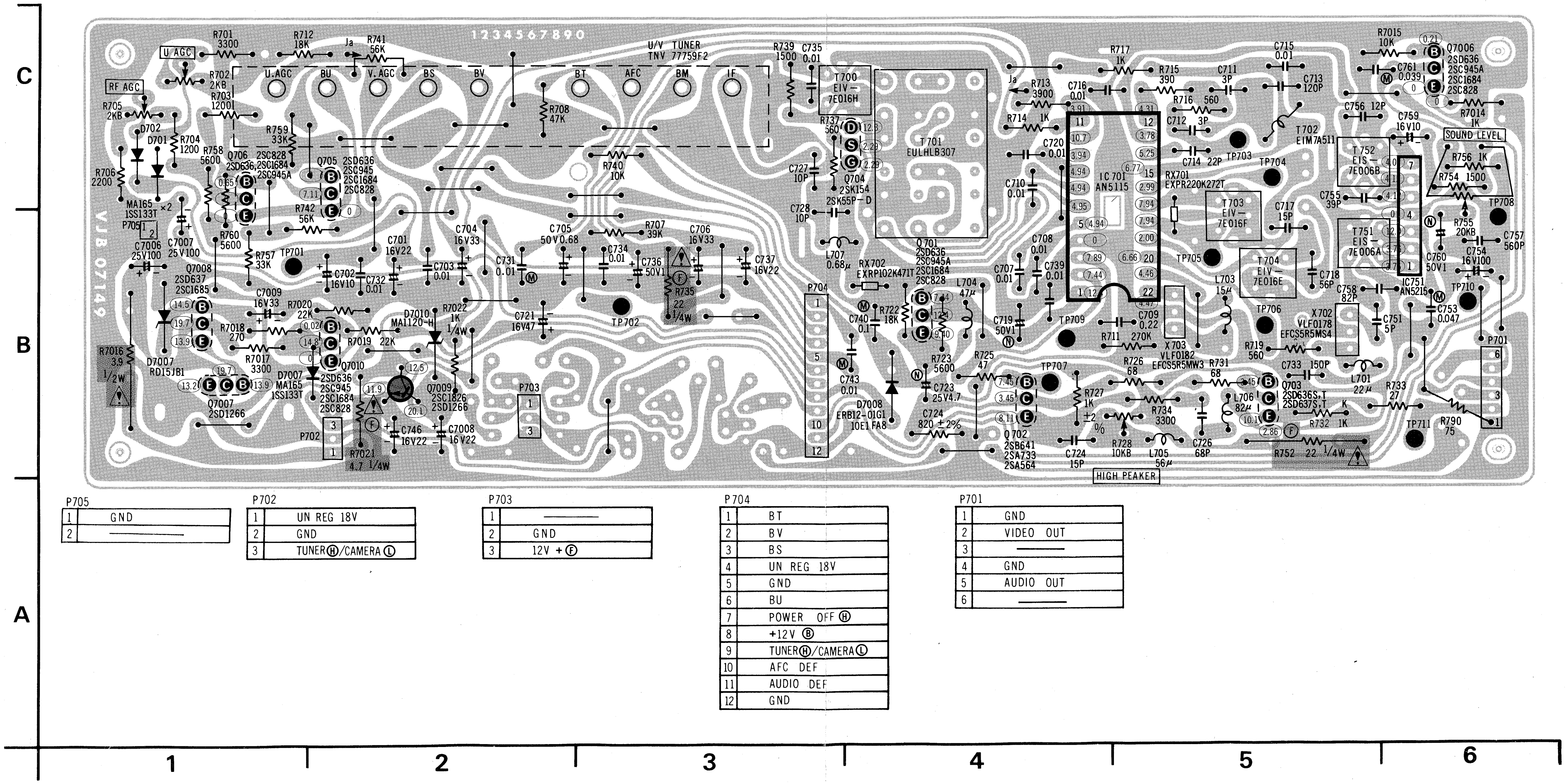
Q701	A-6
Q702	B-7
Q703	A-7
Q704	C-5
Q705	D-6
Q706	D-6
Q7006	D-9
Q7007	C-8
Q7008	C-8
Q7009	B-8
Q7010	B-8
IC701	B-5
IC751	E-7

TV DEMODULATOR BOARD (VEP07149A: NV-777E, EG)


TV Demodulator Board


R702
U.AGC
R705
RF.AGC
TP701
TP702
T701
TP703
SOUND LEVEL
R755
T752
T703
TP704
TP708
TP705
T704
TP709
TP710
TP706
TP707
R728
HIGH PEAKER
TP711
TV DEMODULATOR

TV Demodulator C.B.A (NV-777E, EG)	
Q701	B-4
Q702	B-4
Q703	B-5
Q704	C-4
Q705	C-2
Q706	C-1
Q7006	C-6
Q7007	B-1
Q7008	B-1
Q7009	B-2
Q7010	B-2
IC701	B-4
IC751	B-6


C
B
A
1
2
3
4
5
6
VJB 07149
U.AGC
RF AGC
U/V TUNER TNV 77759F2
U.AGC
BU
V.AGC
BS
BV
BT
AFC
BM
IF
T700 EIV-7E016H
T701 EULHLB307
IC701 AN5115
T702 EIM7A511
T703 EIV-7E016F
T704 EIV-7E016E
T751 EIS-7E006A
T752 EIS-7E006B
IC751 AN5215
X702 VLF0178 EFCS5R5MS4
X703 VLF0182 EFCS5R5MW3
SOUND LEVEL
HIGH PEAKER
TP701
TP702
TP703
TP704
TP705
TP706
TP707
TP708
TP709
TP710
TP711
P701
P702
P703
P704
P705
Q701 2SD636 2SC945A 2SC1684 2SC828
Q702 2SB641 2SA733 2SA564
Q703 2SD636S,T 2SD637S,T
Q704 2SK154 2SK55P-D
Q705 2SD636 2SC945 2SC1684 2SC828
Q706 2SD636 2SC828 2SC1684 2SC945A
Q7006 2SD636 2SC945A 2SC1684 2SC828
Q7007 2SD1266
Q7008 2SD637 2SC1685
Q7009 2SC1826 2SD1266
Q7010 2SD636 2SC945 2SC1684 2SC828
D7007 RD15JB1
D7008 ERB12-01G1 10E1FA8
D7010 MA1120-H
R7016 3.9 1/2W
R7021 4.7 1/4W
R735 22 1/4W
R752 22 1/4W

P705

1	GND
2	―――

P702

1	UN REG 18V
2	GND
3	TUNER Ⓗ/CAMERA Ⓛ

P703

1	―――
2	GND
3	12V + Ⓕ

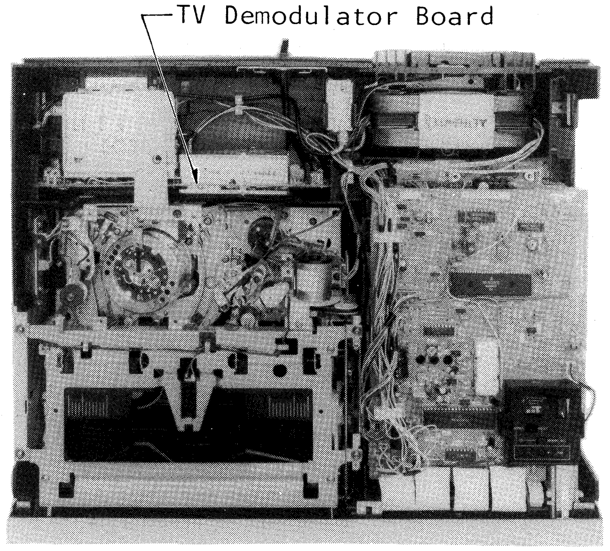
P704

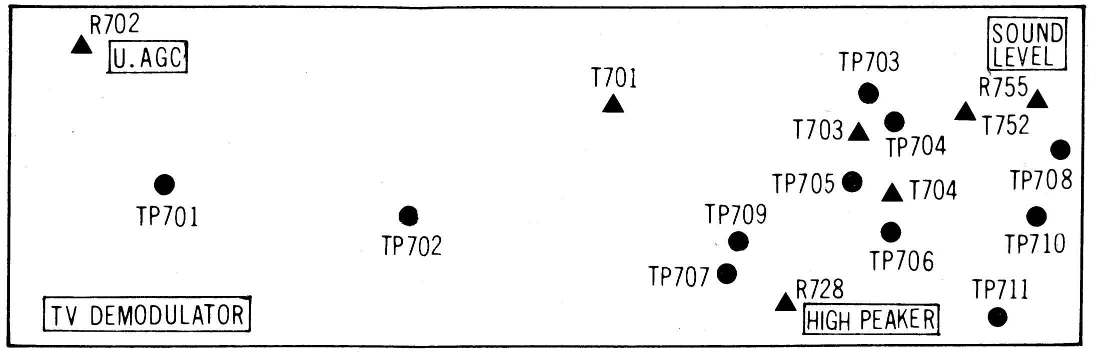
1	BT
2	BV
3	BS
4	UN REG 18V
5	GND
6	BU
7	POWER OFF Ⓗ
8	+12V Ⓑ
9	TUNER Ⓗ/CAMERA Ⓛ
10	AFC DEF
11	AUDIO DEF
12	GND

P701

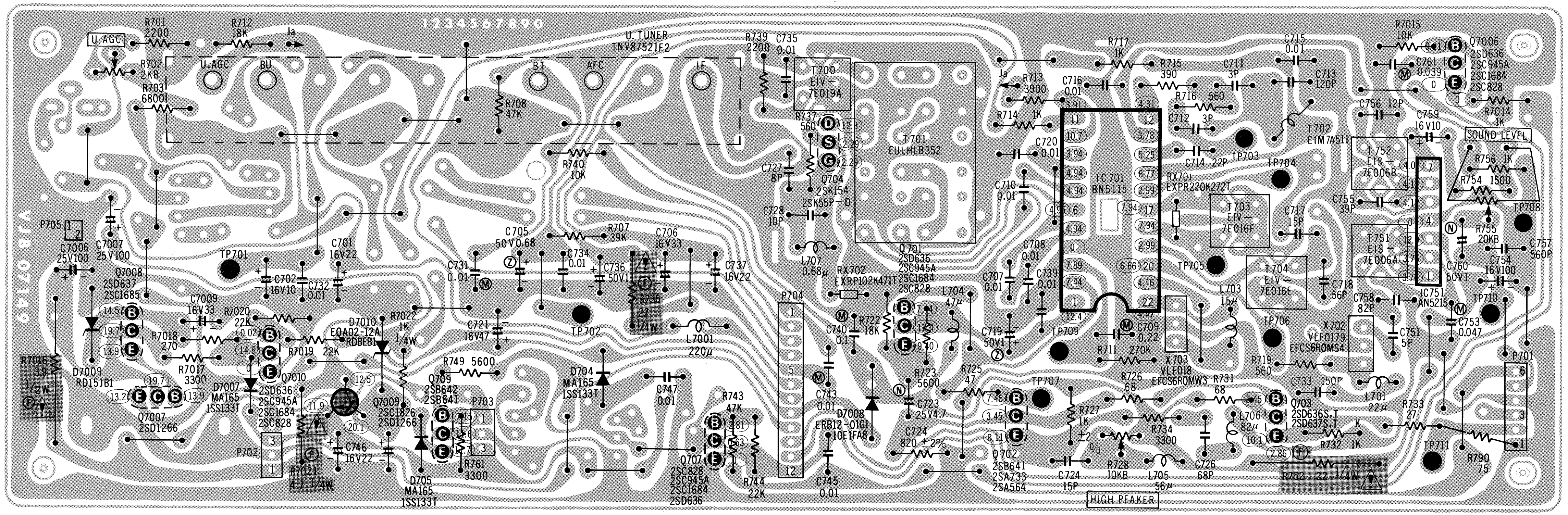
1	GND
2	VIDEO OUT
3	―――
4	GND
5	AUDIO OUT
6	―――

TV DEMODULATOR BOARD (VEP07149B: NV-777B)


TV Demodulator Board


R702
U.AGC
T701
TP703
SOUND LEVEL
R755
T703
TP704
T752
TP705
T704
TP708
TP701
TP702
TP709
TP706
TP710
TP707
R728
HIGH PEAKER
TP711
TV DEMODULATOR

TV Demodulator C.B.A (NV-777B)	
Q701	B-4
Q702	B-4
Q703	B-5
Q704	C-4
Q707	B-3
Q709	B-2
Q7006	C-6
Q7007	B-1
Q7008	B-1
Q7009	B-2
Q7010	B-1
IC701	B-4
IC751	B-6


C
B
A
1
2
3
4
5
6
1234567890
VJB 07149
U.AGC
R701 2200
R712 18K
R702 2KB
R703 6800
U.AGC
BU
BT
AFC
IF
U.TUNER TNV87521F2
R708 47K
R740 10K
R739 2200
C735 0.01
T700 EIV-7E019A
R737 560
Q704 2SK154 2SK55P-D
C727 8P
C728 10P
T701 EULHLB352
L707 0.68µ
RX702 EXRP102K471T
Q701 2SD636 2SC945A 2SC1684 2SC828
P705
C7006 25V100
C7007 25V100
Q7008 2SD637 2SC1685
TP701
C701 16V22
C702 16V10
C732 0.01
C705 50V0.68
R707 39K
C706 16V33
C731 0.01
C734 0.01
C736 50V1
C737 16V22
R735 22 1/4W
C7009 16V33
R7020 22K
D7010 EQA02-12A RD8EB1
R7022 1K 1/4W
R7019 22K
C721 16V47
TP702
L7001 220µ
R7018 270
R7017 3300
R7016 3.9 1/2W
D7009 RD15JB1
Q7007 2SD1266
D7007 MA165 1SS133T
Q7010 2SD636 2SC945A 2SC1684 2SC828
Q7009 2SC1826 2SD1266
P702
R7021 4.7 1/4W
C746 16V22
D705 MA165 1SS133T
Q709 2SB642 2SB641
R749 5600
P703
R761 3300
D704 MA165 1SS133T
C747 0.01
R743 47K
Q707 2SC828 2SC945A 2SC1684 2SD636
R744 22K
P704
C740 0.1
R722 18K
C743 0.01
D7008 ERB12-01G1 10E1FA8
C745 0.01
C724 820 ±2%
C723 25V4.7
L704 47µ
C719 50V1
R723 5600
R725 47
Q702 2SB641 2SA733 2SA564
R713 3900
R714 1K
C716 0.01
C720 0.01
C710 0.01
C708 0.01
C707 0.01
C739 0.01
IC701 BN5115
TP709
TP707
R711 270K
C709 0.22
R717 1K
R715 390
R716 560
C711 3P
C712 3P
C714 22P
RX701 EXPR220K272T
TP703
TP704
TP705
T703 EIV-7E016F
C717 15P
T704 EIV-7E016E
L703 15µ
X703 VLF018 EFCS6R0MW3
R726 68
R727 1K
R734 3300
R728 10KB
L705 56µ
C726 68P
R731 68
Q703 2SD636S,T 2SD637S,T
L706 82µ
R732 1K
C733 150P
L701 22µ
R733 27
R752 22 1/4W
TP711
R790 75
HIGH PEAKER
C715 0.01
C713 120P
T702 EIM7A511
C756 12P
C755 39P
T752 EIS-7E006B
T751 EIS-7E006A
C718 56P
C758 82P
X702 VLF0179 EFCS6R0MS4
TP706
R719 560
C751 5P
IC751 AN5215
C760 50V1
C753 0.047
TP710
R7015 10K
C761 0.039
Q7006 2SD636 2SC945A 2SC1684 2SC828
R7014 1K
C759 16V10
SOUND LEVEL
R756 1K
R754 1500
R755 20KB
TP708
C757 560P
C754 16V100
P701

P705	
1	GND
2	———

P702	
1	UN REG 18V
2	GND
3	TUNERⒽ/CAMERAⓁ

P703	
1	ANT BS
2	GND
3	+12V Ⓕ

P704	
1	BT
2	———
3	———
4	———
5	GND
6	BU
7	POWER OFF Ⓗ
8	+12V Ⓑ
9	TUNERⒽ/CAMERAⓁ
10	AFC DEF
11	AUDIO DEF
12	GND

P701	
1	GND
2	VIDEO OUT
3	———
4	GND
5	AUDIO OUT
6	EEⒽ

TV DEMODULATOR SCHEMATIC DIAGRAM (NV-777B)

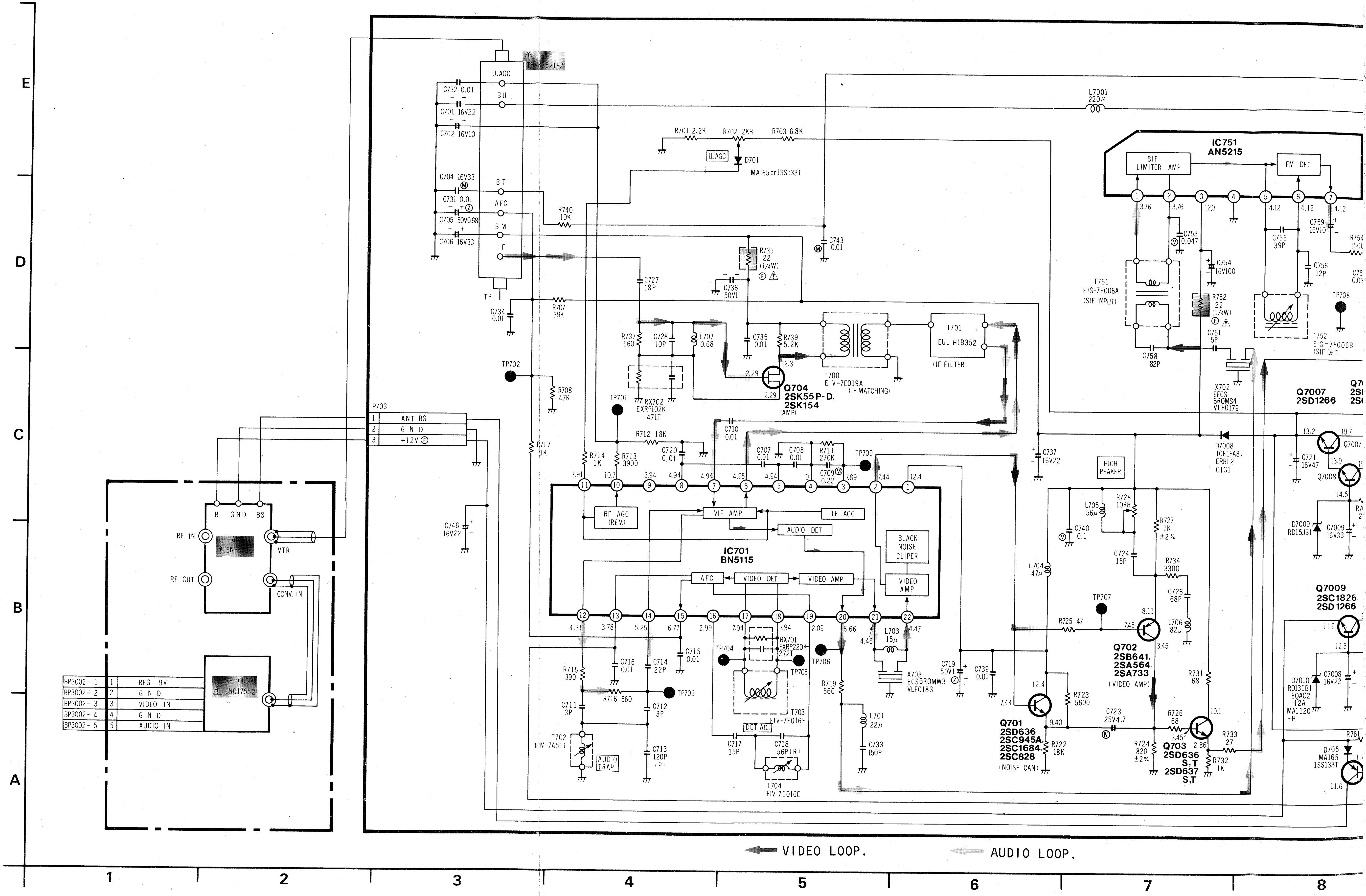
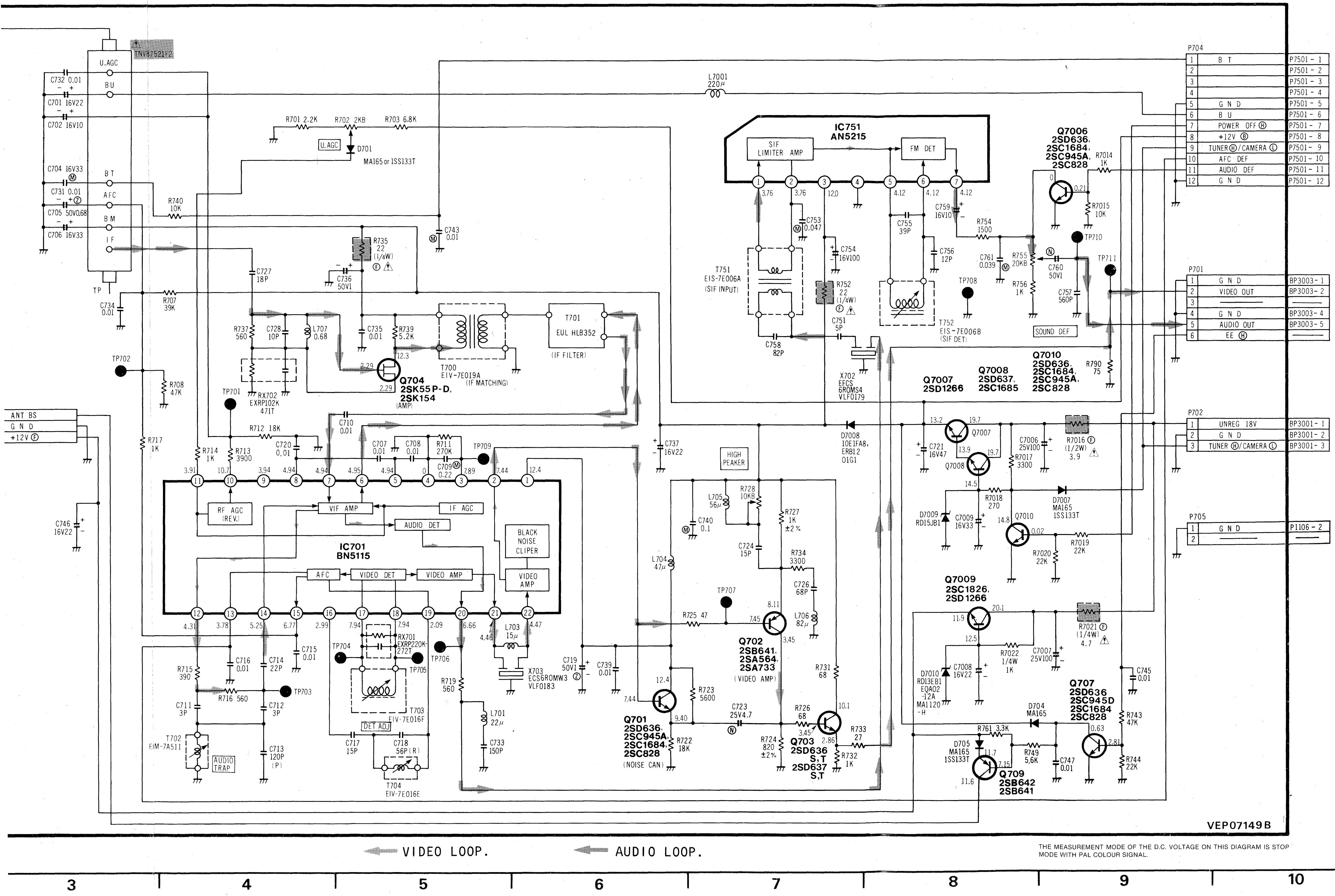

E
D
C
B
A
1
2
3
4
5
6
7
8
TNV87521F2
U.AGC
BU
BT
AFC
BM
IF
TP
C732 0.01
C701 16V22
C702 16V10
C704 16V33
C731 0.01
C705 50V0.68
C706 16V33
C734 0.01
R740 10K
R707 39K
R708 47K
TP702
TP701
R717 1K
R714 1K
R713 3900
R712 18K
C720 0.01
C746 16V22
P703
ANT BS
GND
+12V Ⓕ
B
GND
BS
RF IN
ANT ENPE726
VTR
RF OUT
CONV. IN
RF CONV. ENC17552
BP3002-1
BP3002-2
BP3002-3
BP3002-4
BP3002-5
REG 9V
GND
VIDEO IN
GND
AUDIO IN
R701 2.2K
R702 2KB
R703 6.8K
U.AGC
D701
MA165 or 1SS133T
R735 22 (1/4W)
C736 50V1
C743 0.01
C727 18P
R737 560
C728 10P
L707 0.68
C735 0.01
R739 5.2K
RX702 EXRP102K 471T
Q704
2SK55P-D,
2SK154
(AMP)
T700
EIV-7E019A
(IF MATCHING)
T701
EUL HLB352
(IF FILTER)
C710 0.01
C707 0.01
C708 0.01
R711 270K
C709 0.22
TP709
IC701
BN5115
RF AGC (REV.)
VIF AMP
IF AGC
AUDIO DET
BLACK NOISE CLIPER
AFC
VIDEO DET
VIDEO AMP
VIDEO AMP
C716 0.01
C714 22P
C715 0.01
R715 390
R716 560
TP703
TP704
RX701 EXRP220K-272T
TP705
TP706
C711 3P
C712 3P
C713 120P (P)
T702
EIM-7A511
AUDIO TRAP
T703
EIV-7E016F
DET ADJ
C717 15P
C718 56P(R)
T704
EIV-7E016E
L703 15μ
X703 ECS6R0MW3 VLF0183
R719 560
L701 22μ
C733 150P
C719 50V1
C739 0.01
L7001 220μ
IC751
AN5215
SIF LIMITER AMP
FM DET
C753 0.047
C754 16V100
C755 39P
C759 16V10
C756 12P
T751
EIS-7E006A
(SIF INPUT)
R752 22 (1/4W)
C751 5P
C758 82P
TP708
T752
EIS-7E006B
(SIF DET)
X702
EFCS 6R0MS4 VLF0179
C737 16V22
D7008
10E1FA8, ERB12 01G1
HIGH PEAKER
L705 56μ
R728 10KB
R727 1K ±2%
C740 0.1
C724 15P
R734 3300
C726 68P
L704 47μ
TP707
R725 47
L706 82μ
Q702
2SB641,
2SA564,
2SA733
(VIDEO AMP)
R723 5600
R731 68
Q701
2SD636,
2SC945A,
2SC1684,
2SC828
(NOISE CAN)
R722 18K
C723 25V4.7
R726 68
R724 820 ±2%
Q703
2SD636 S,T
2SD637 S,T
R733 27
R732 1K
Q7007
2SD1266
C721 16V47
Q7008
D7009 RD15JB1
C7009 16V33
Q7009
2SC1826,
2SD1266
D7010 RD13EB1 EQA02-12A MA1120-H
C7008 16V22
D705 MA165 1SS133T
R761
VIDEO LOOP.
AUDIO LOOP.

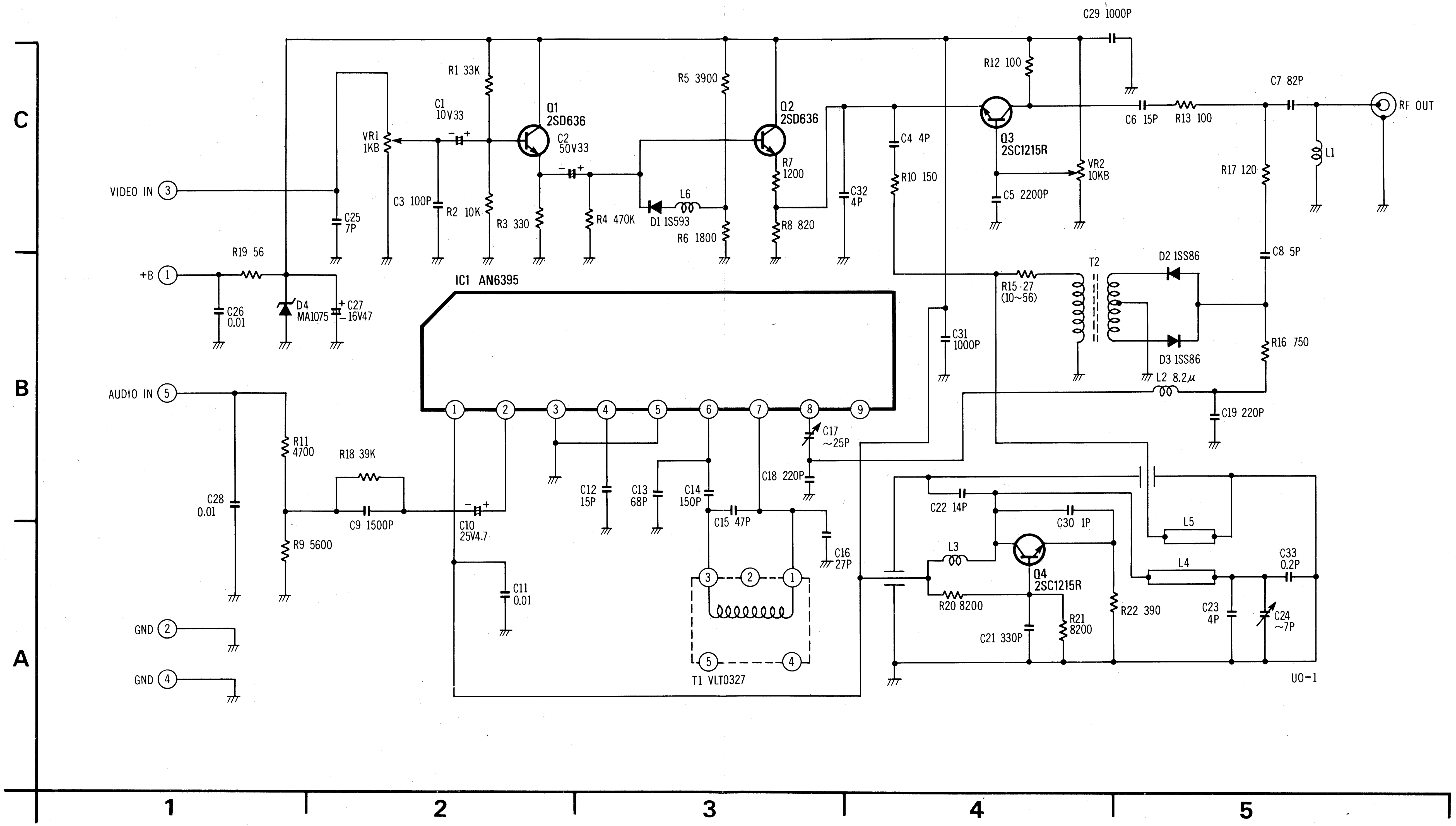
DIAGRAM (NV-777B)


TNV87521F2
U.AGC
BU
BT
AFC
BM
IF
TP
C732 0.01
C701 16V22
C702 16V10
C704 16V33
C731 0.01
C705 50V0.68
C706 16V33
C734 0.01
R707 39K
R701 2.2K
R702 2KB
R703 6.8K
U.AGC
D701
MA165 or 1SS133T
R740 10K
C743 0.01
R735 22 (1/4W)
C736 50V1
C727 18P
L7001 220μ
IC751
AN5215
SIF LIMITER AMP
FM DET
T751 EIS-7E006A (SIF INPUT)
C753 0.047
C754 16V100
R752 22 (1/4W)
C751 5P
C758 82P
C755 39P
C759 16V10
C756 12P
T752 EIS-7E006B (SIF DET)
X702 EFCS 6R0MS4 VLF0179
TP708
SOUND DEF
R754 1500
C761 0.039
R755 20KB
R756 1K
C760 50V1
C757 560P
TP710
TP711
R7014 1K
R7015 10K
Q7006 2SD636, 2SC1684, 2SC945A, 2SC828
T701 EUL HLB352 (IF FILTER)
T700 EIV-7E019A (IF MATCHING)
Q704 2SK55P-D, 2SK154 (AMP)
R737 560
C728 10P
L707 0.68
C735 0.01
R739 5.2K
RX702 EXRP102K 471T
TP701
TP702
R708 47K
R717 1K
R712 18K
R714 1K
R713 3900
C720 0.01
C710 0.01
C707 0.01
C708 0.01
R711 270K
C709 0.22
TP709
C737 16V22
HIGH PEAKER
IC701
BN5115
RF AGC (REV.)
VIF AMP
IF AGC
AUDIO DET
BLACK NOISE CLIPER
AFC
VIDEO DET
VIDEO AMP
VIDEO AMP
ANT BS
GND
+12V
C746 16V22
R715 390
R716 560
TP703
C716 0.01
C714 22P
C715 0.01
C711 3P
C712 3P
C713 120P (P)
T702 EIM-7A511
AUDIO TRAP
TP704
RX701 EXRP220K 272T
TP705
TP706
T703 EIV-7E016F
DET ADJ
C717 15P
C718 56P (R)
T704 EIV-7E016E
R719 560
L701 22μ
C733 150P
L703 15μ
X703 ECS6R0MW3 VLF0183
C719 50V1
C739 0.01
L705 56μ
C740 0.1
R728 10KB
R727 1K ±2%
C724 15P
R734 3300
C726 68P
L704 47μ
TP707
R725 47
L706 82μ
Q702 2SB641, 2SA564, 2SA733 (VIDEO AMP)
R723 5600
Q701 2SD636, 2SC945A, 2SC1684, 2SC828 (NOISE CAN)
R722 18K
C723 25V4.7
R724 820 ±2%
R726 68
R731 68
Q703 2SD636 S,T 2SD637 S,T
R733 27
R732 1K
D7008 10E1FA8, ERB12 01G1
Q7007 2SD1266
Q7008 2SD637, 2SC1685
Q7010 2SD636, 2SC1684, 2SC945A, 2SC828
R790 75
C721 16V47
C7006 25V100
R7016 (1/2W) 3.9
R7017 3300
R7018 270
D7007 MA165 1SS133T
D7009 RD15JB1
C7009 16V33
R7019 22K
R7020 22K
Q7009 2SC1826, 2SD1266
R7021 (1/4W) 4.7
R7022 1/4W 1K
C7007 25V100
C7008 16V22
D7010 RD13EB1 EQA02-12A MA1120-H
D704 MA165
R761 3.3K
D705 MA165 1SS133T
R749 5.6K
C747 0.01
Q709 2SB642 2SB641
Q707 2SD636 2SC945D 2SC1684 2SC828
C745 0.01
R743 47K
R744 22K
P704
1 B T P7501-1
2 P7501-2
3 P7501-3
4 P7501-4
5 GND P7501-5
6 BU P7501-6
7 POWER OFF Ⓗ P7501-7
8 +12V Ⓑ P7501-8
9 TUNER Ⓗ/CAMERA Ⓛ P7501-9
10 AFC DEF P7501-10
11 AUDIO DEF P7501-11
12 GND P7501-12
P701
1 GND BP3003-1
2 VIDEO OUT BP3003-2
3
4 GND BP3003-4
5 AUDIO OUT BP3003-5
6 EE Ⓗ
P702
1 UNREG 18V BP3001-1
2 GND BP3001-2
3 TUNER Ⓗ/CAMERA Ⓛ BP3001-3
P705
1 GND P1106-2
2
VEP07149B
VIDEO LOOP.
AUDIO LOOP.
3
4
5
6
7
8
9
10

THE MEASUREMENT MODE OF THE D.C. VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL.

TV Denodulator (NV-777B)	
Q701	A-6
Q702	B-7
Q703	A-7
Q704	C-5
Q707	A-9
Q709	A-8
Q7006	D-9
Q7007	C-8
Q7008	C-8
Q7009	B-8
Q7010	B-8
IC701	B-5
IC751	E-7

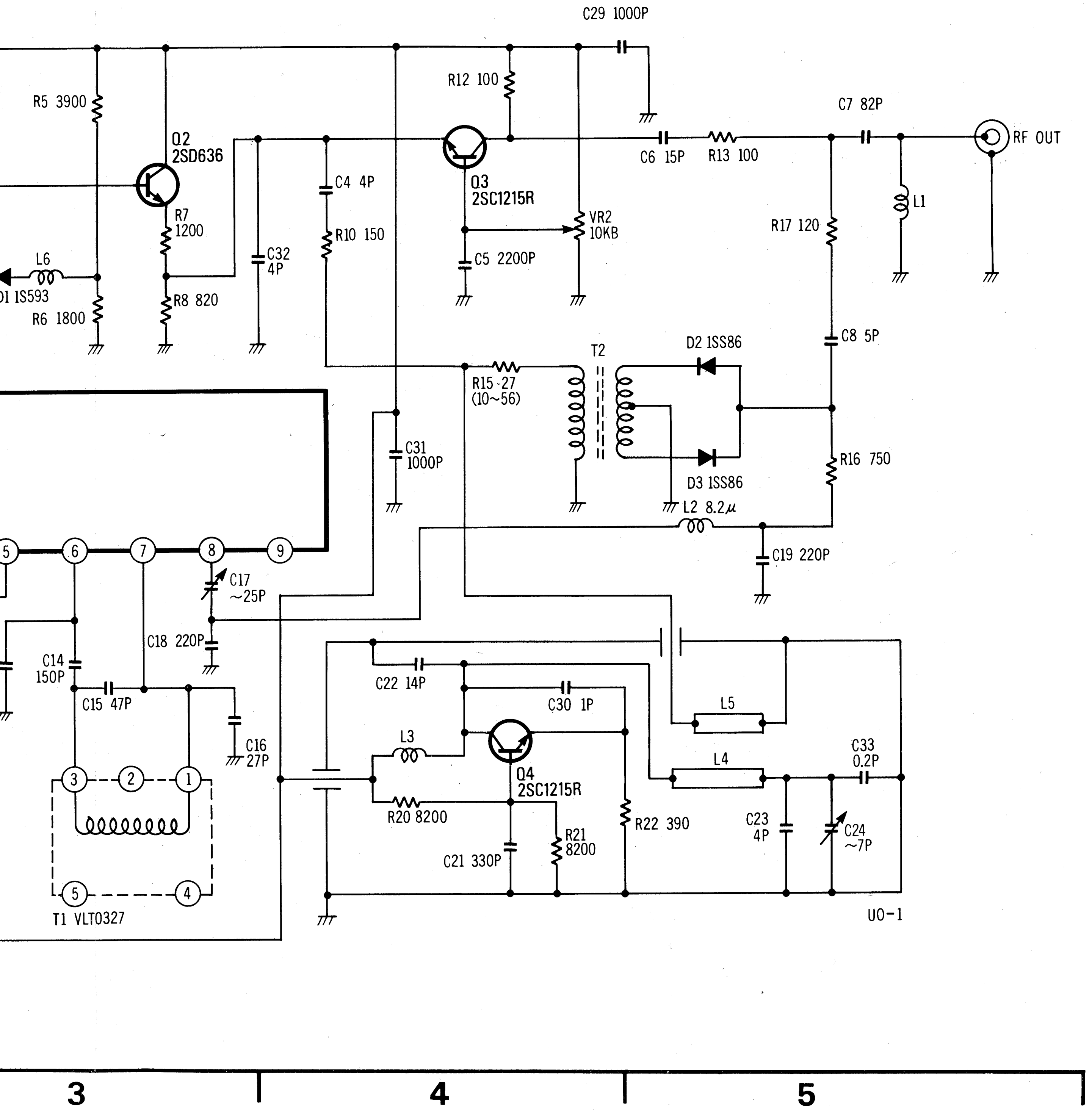
RF CONVERTER SCHEMATIC DIAGRAM (NV-777E, EG)



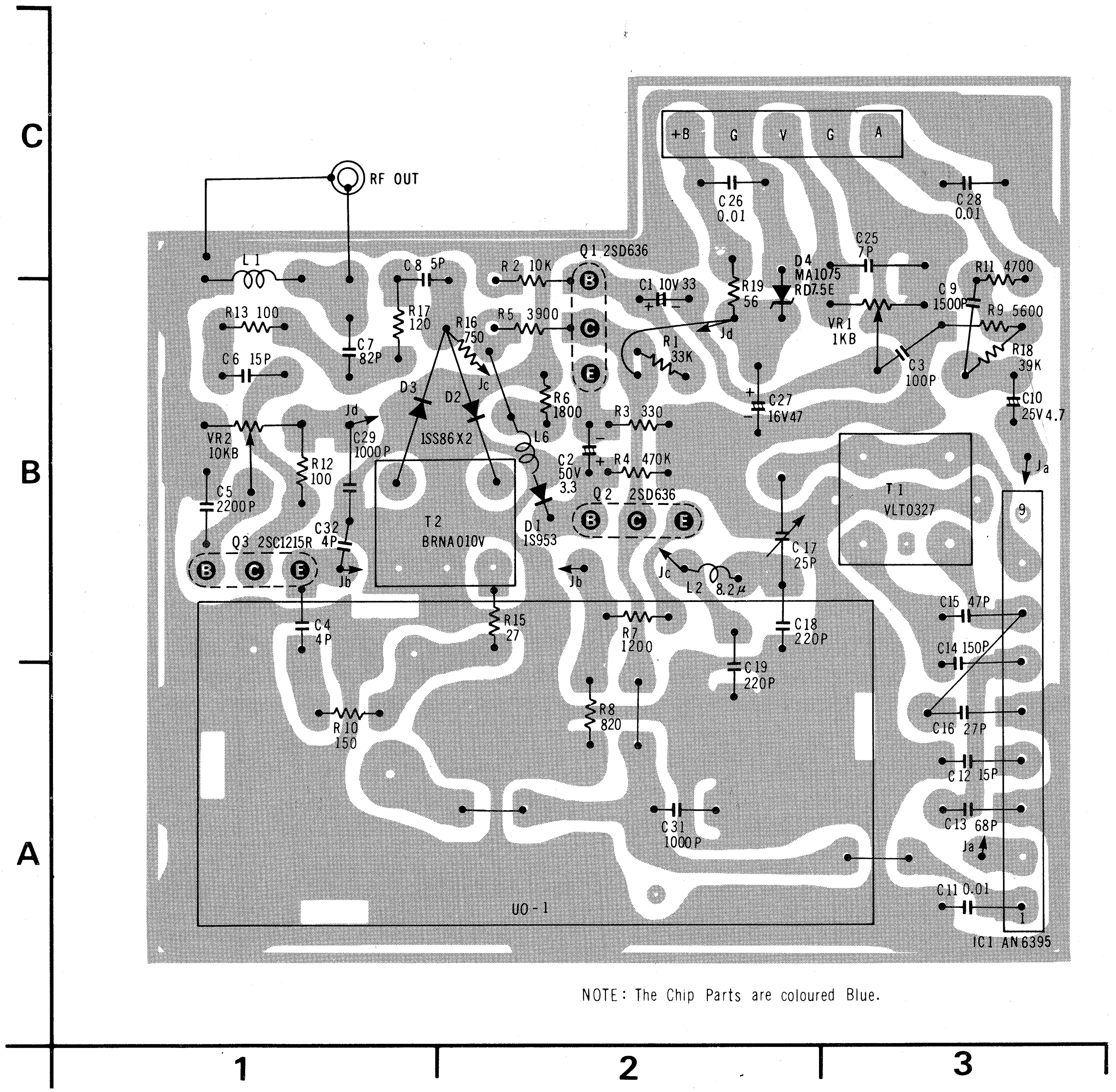
C
B
A
1
2
3
4
5
VIDEO IN ③
+B ①
AUDIO IN ⑤
GND ②
GND ④
R19 56
C26 0.01
D4 MA1075
C27 16V47
C25 7P
VR1 1KB
C3 100P
C1 10V33
R1 33K
R2 10K
Q1 2SD636
C2 50V33
R3 330
R4 470K
D1 1S593
L6
R5 3900
R6 1800
Q2 2SD636
R7 1200
R8 820
C32 4P
C4 4P
R10 150
R12 100
Q3 2SC1215R
C5 2200P
VR2 10KB
C29 1000P
C6 15P
R13 100
C7 82P
RF OUT
L1
R17 120
C8 5P
T2
D2 1SS86
D3 1SS86
R15 27 (10~56)
R16 750
L2 8.2μ
C19 220P
C31 1000P
IC1 AN6395
R11 4700
R18 39K
C9 1500P
C10 25V4.7
C28 0.01
R9 5600
C11 0.01
C12 15P
C13 68P
C14 150P
C15 47P
C16 27P
C17 ~25P
C18 220P
T1 VLT0327
C22 14P
C30 1P
L3
Q4 2SC1215R
R20 8200
C21 330P
R21 8200
R22 390
L5
L4
C23 4P
C24 ~7P
C33 0.2P
UO-1

RF CONV

E, EG)

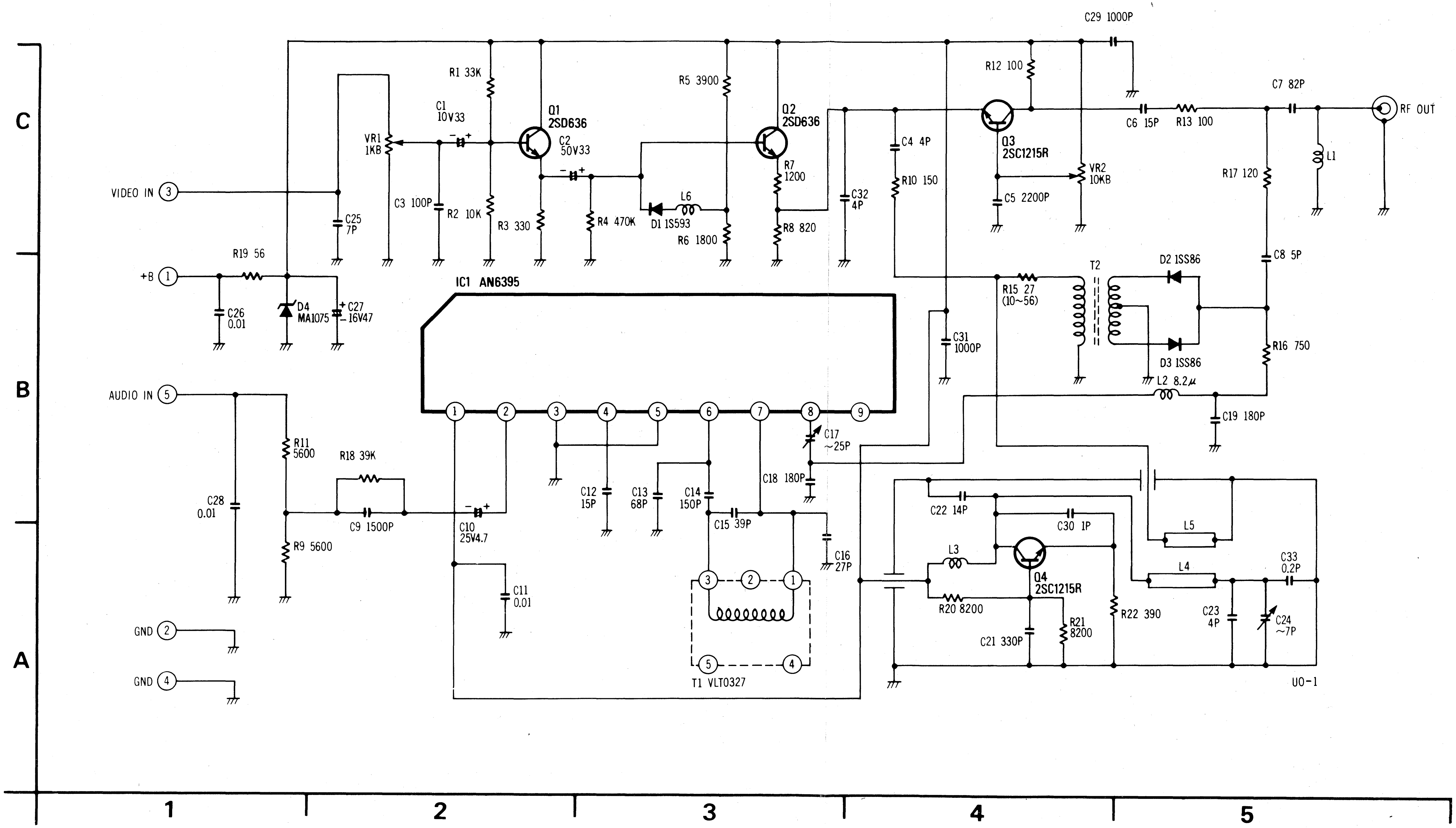

C29 1000P
R5 3900
R12 100
C7 82P
RF OUT
Q2
2SD636
C4 4P
Q3
2SC1215R
C6 15P
R13 100
L1
R7
1200
R10 150
VR2
10KB
R17 120
C32
4P
C5 2200P
L6
D1 1SS593
R8 820
R6 1800
D2 1SS86
T2
C8 5P
R15 27
(10~56)
C31
1000P
D3 1SS86
R16 750
L2 8.2μ
C19 220P
5
6
7
8
9
C17
~25P
C14
150P
C18 220P
C15 47P
C16
27P
C22 14P
C30 1P
L5
L3
Q4
2SC1215R
L4
C33
0.2P
R20 8200
R21
8200
R22 390
C23
4P
C24
~7P
C21 330P
3
2
1
5
4
T1 VLT0327
U0-1
3
4
5

RF CONVERTER BOARD (ENC17551: NV-777E, EG)

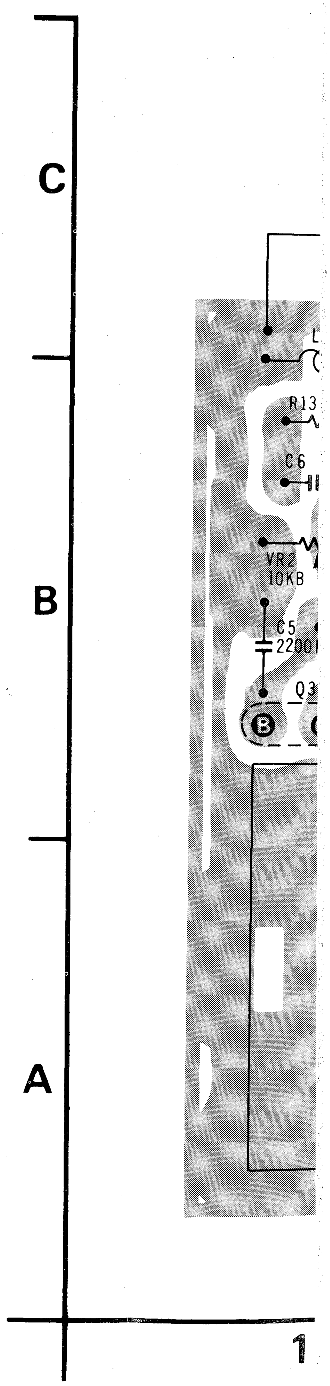

C
B
A
1
2
3
RF OUT
+B
G
V
G
A
C26
0.01
C28
0.01
L1
C8 5P
R2 10K
Q1 2SD636
B
C
E
C1 10V 33
R19
56
D4
MA1075
RD7.5E
C25
7P
R11 4700
C9
1500P
R9 5600
R13 100
R17
120
R16
750
R5 3900
R1
33K
Jd
VR1
1KB
C3
100P
R18
39K
C6 15P
C7
82P
D3
D2
Jc
R6
1800
R3 330
C27
16V47
C10
25V4.7
VR2
10KB
Jd
C29
1000P
1SS86X2
L6
C2
50V
3.3
R4 470K
T1
VLT0327
Ja
R12
100
C5
2200P
T2
BRNA010V
D1
1SS953
Q2 2SD636
B
C
E
9
C32
4P
Q3 2SC1215R
B
C
E
Jb
Jb
Jc
L2 8.2μ
C17
25P
C15 47P
C4
4P
R15
27
R7
1200
C18
220P
C14 150P
C19
220P
R10
150
R8
820
C16 27P
C12 15P
C31
1000P
C13 68P
Ja
C11 0.01
U0-1
1
IC1 AN6395

NOTE: The Chip Parts are coloured Blue.

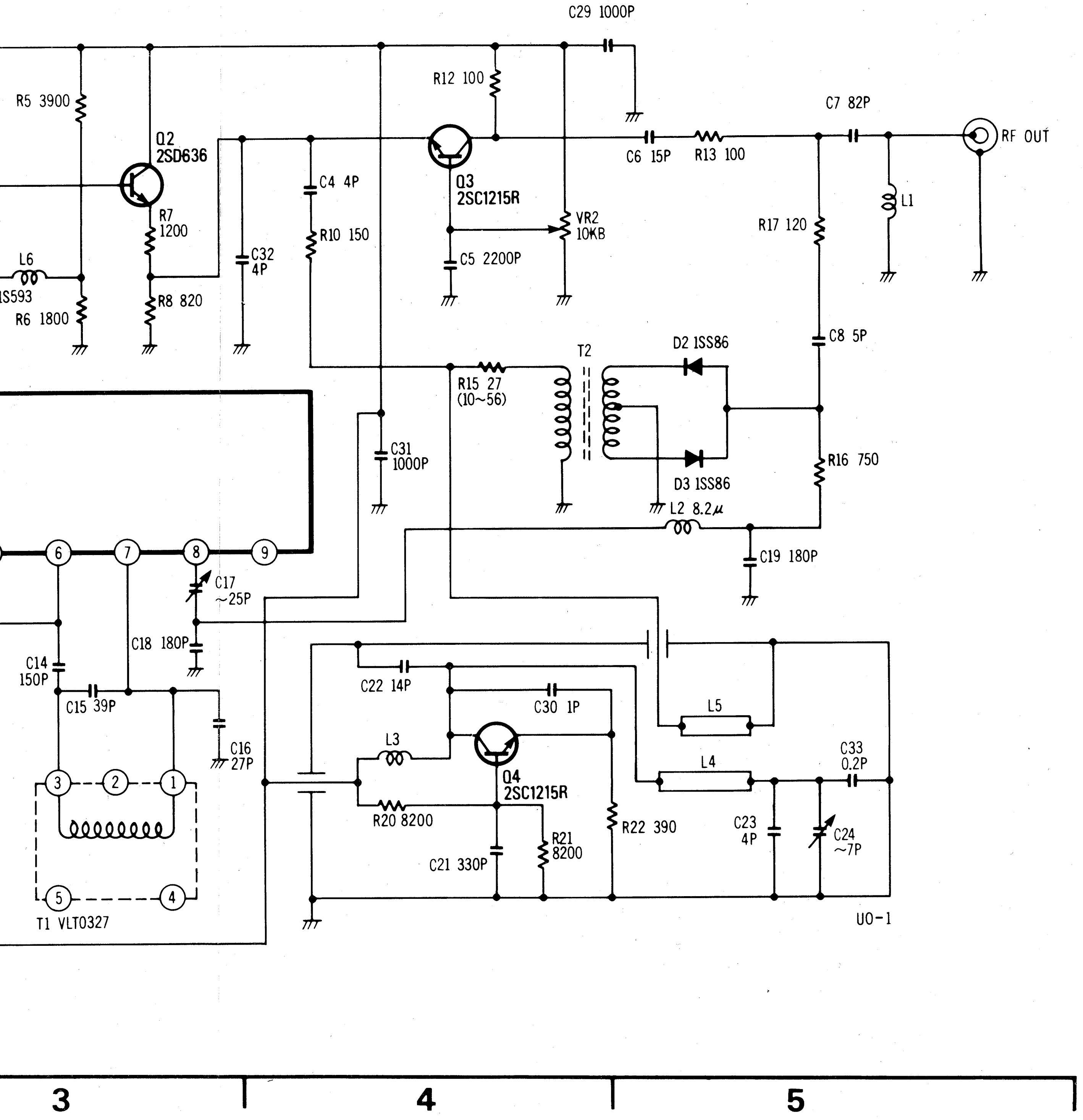
RF CONVERTER SCHEMATIC DIAGRAM (NV-777B)


C
B
A
1
2
3
4
5
VIDEO IN 3
+B 1
AUDIO IN 5
GND 2
GND 4
R19 56
C26 0.01
D4 MA1075
C27 16V47
C25 7P
VR1 1KB
C1 10V33
C3 100P
R1 33K
R2 10K
Q1 2SD636
R3 330
C2 50V33
R4 470K
R5 3900
D1 1S593
L6
R6 1800
Q2 2SD636
R7 1200
R8 820
C32 4P
C4 4P
R10 150
C29 1000P
R12 100
Q3 2SC1215R
C5 2200P
VR2 10KB
C6 15P
R13 100
C7 82P
RF OUT
L1
R17 120
C8 5P
T2
R15 27 (10~56)
C31 1000P
D2 1SS86
D3 1SS86
L2 8.2μ
R16 750
C19 180P
IC1 AN6395
1
2
3
4
5
6
7
8
9
C17 ~25P
C18 180P
C12 15P
C13 68P
C14 150P
C15 39P
C16 27P
T1 VLT0327
R11 5600
R18 39K
C9 1500P
C10 25V4.7
C28 0.01
R9 5600
C11 0.01
C22 14P
C30 1P
L3
L5
L4
Q4 2SC1215R
R20 8200
C21 330P
R21 8200
R22 390
C23 4P
C24 ~7P
C33 0.2P
UO-1

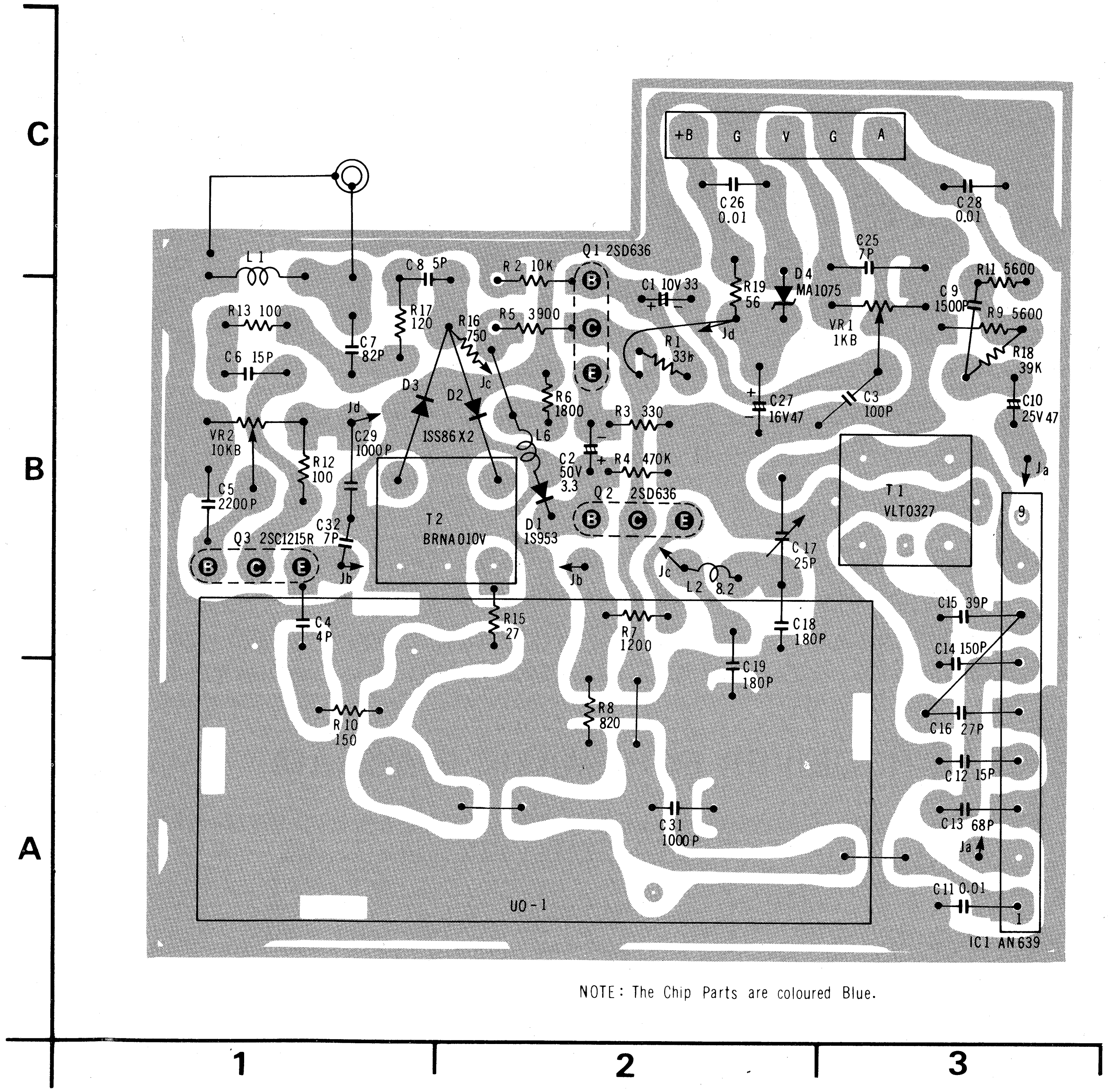
RF CONVEF


C
B
A
1
R13
C6
VR2 10KB
C5 2200
Q3
B

)

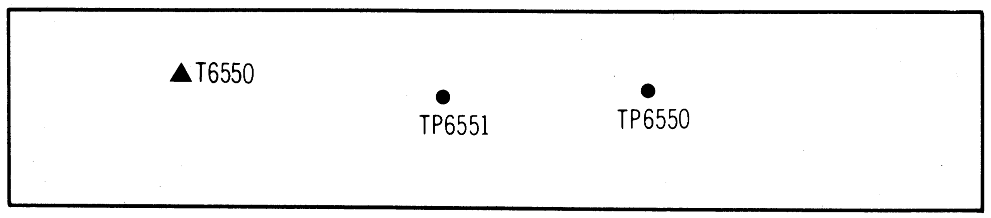

C29 1000P
R5 3900
R12 100
C7 82P
Q2
2SD636
Q3
2SC1215R
C6 15P
R13 100
RF OUT
C4 4P
R7
1200
VR2
10KB
R17 120
L1
R10 150
C32
4P
C5 2200P
L6
1S593
R8 820
R6 1800
T2
D2 1SS86
C8 5P
R15 27
(10~56)
C31
1000P
R16 750
D3 1SS86
L2 8.2μ
C19 180P
6
7
8
9
C17
~25P
C14
150P
C18 180P
C15 39P
C16
27P
C22 14P
C30 1P
L5
L3
L4
C33
0.2P
Q4
2SC1215R
R20 8200
R21
8200
R22 390
C23
4P
C24
~7P
C21 330P
3
2
1
5
4
T1 VLT0327
UO-1
3
4
5

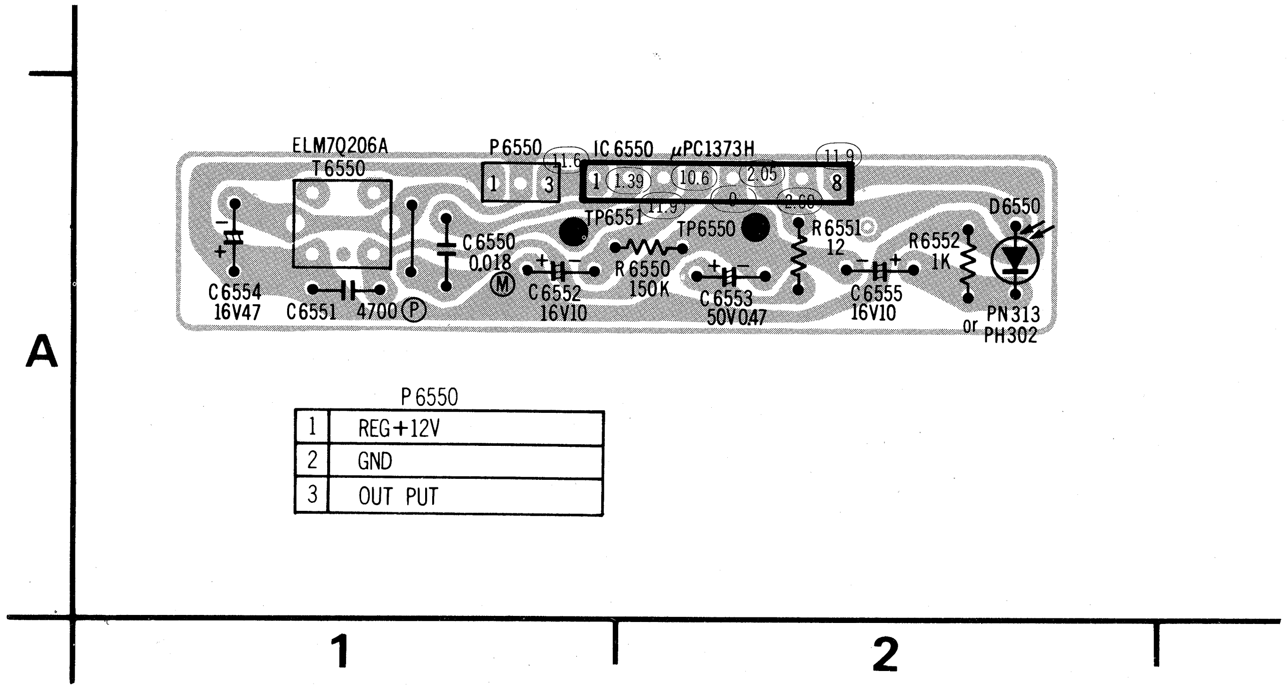
RF CONVERTER BOARD (ENC17552: NV-777B)


C
B
A
+B
G
V
G
A
C26
0.01
C28
0.01
L1
C8 5P
R2 10K
Q1 2SD636
C25
7P
R11 5600
R13 100
R17
120
R16
750
R5 3900
C1 10V33
R19
56
D4
MA1075
C9
1500P
R9 5600
C7
82P
R1
33k
VR1
1KB
R18
39K
C6 15P
Jd
D3
D2
Jc
R6
1800
C27
16V47
C3
100P
C10
25V47
VR2
10KB
C29
1000P
1SS86 X2
L6
R3 330
R12
100
C2
50V
3.3
R4 470K
Ja
C5
2200P
T2
BRNA010V
D1
1S953
Q2 2SD636
T1
VLT0327
9
C32 7P
Q3 2SC1215R
B
C
E
Jb
Jc
L2 8.2
C17
25P
C4
4P
R15
27
R7
1200
C18
180P
C15 39P
C19
180P
C14 150P
R10
150
R8
820
C16 27P
C12 15P
C13 68P
C31
1000P
Ja
C11 0.01
UO-1
1
IC1 AN639
1
2
3

NOTE: The Chip Parts are coloured Blue.

IR WIRELESS RECEIVER BOARD (VEP06178A)

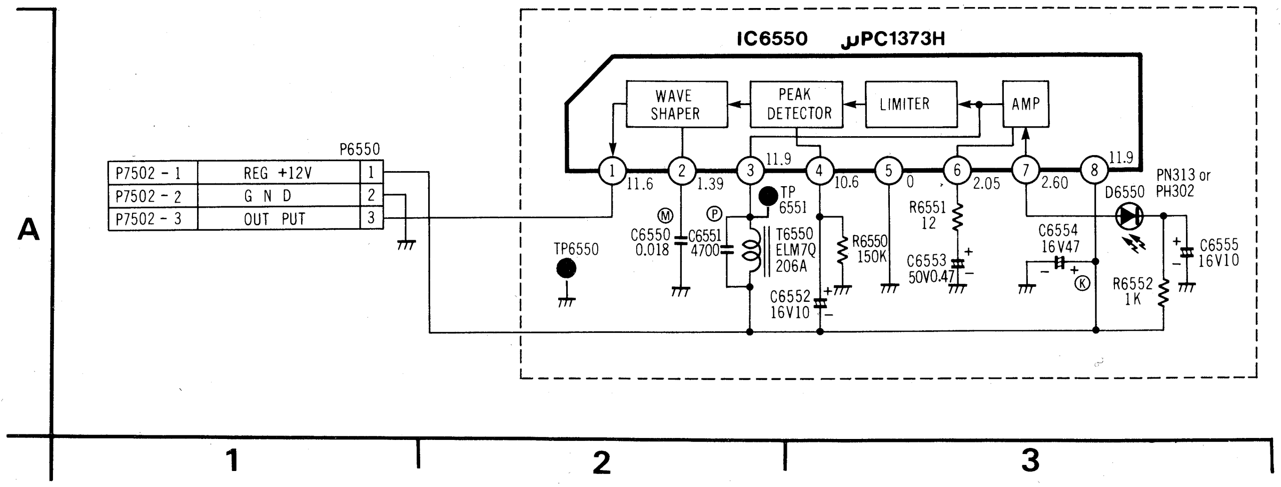

▲T6550
TP6551
TP6550

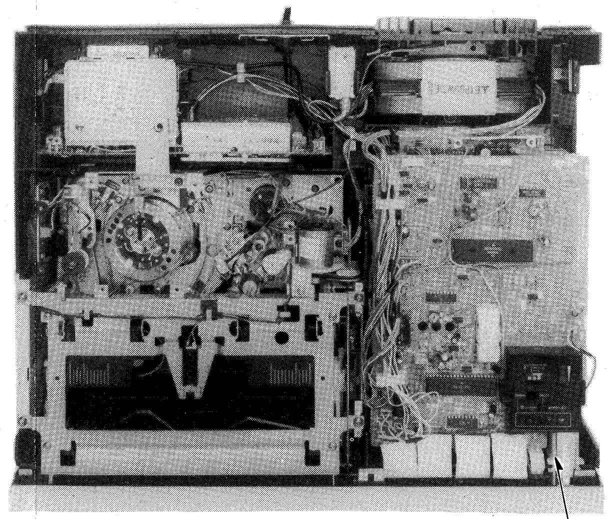

ELM7Q206A
T6550
P6550
IC6550 μPC1373H
11.6
1.39
10.6
2.05
11.9
0
2.60
TP6551
TP6550
R6551 12
R6552 1K
D6550
C6550 0.018
Ⓜ
C6552 16V10
R6550 150K
C6553 50V047
C6555 16V10
C6554 16V47
C6551 4700Ⓟ
PN313 or PH302
A
1
2

P6550

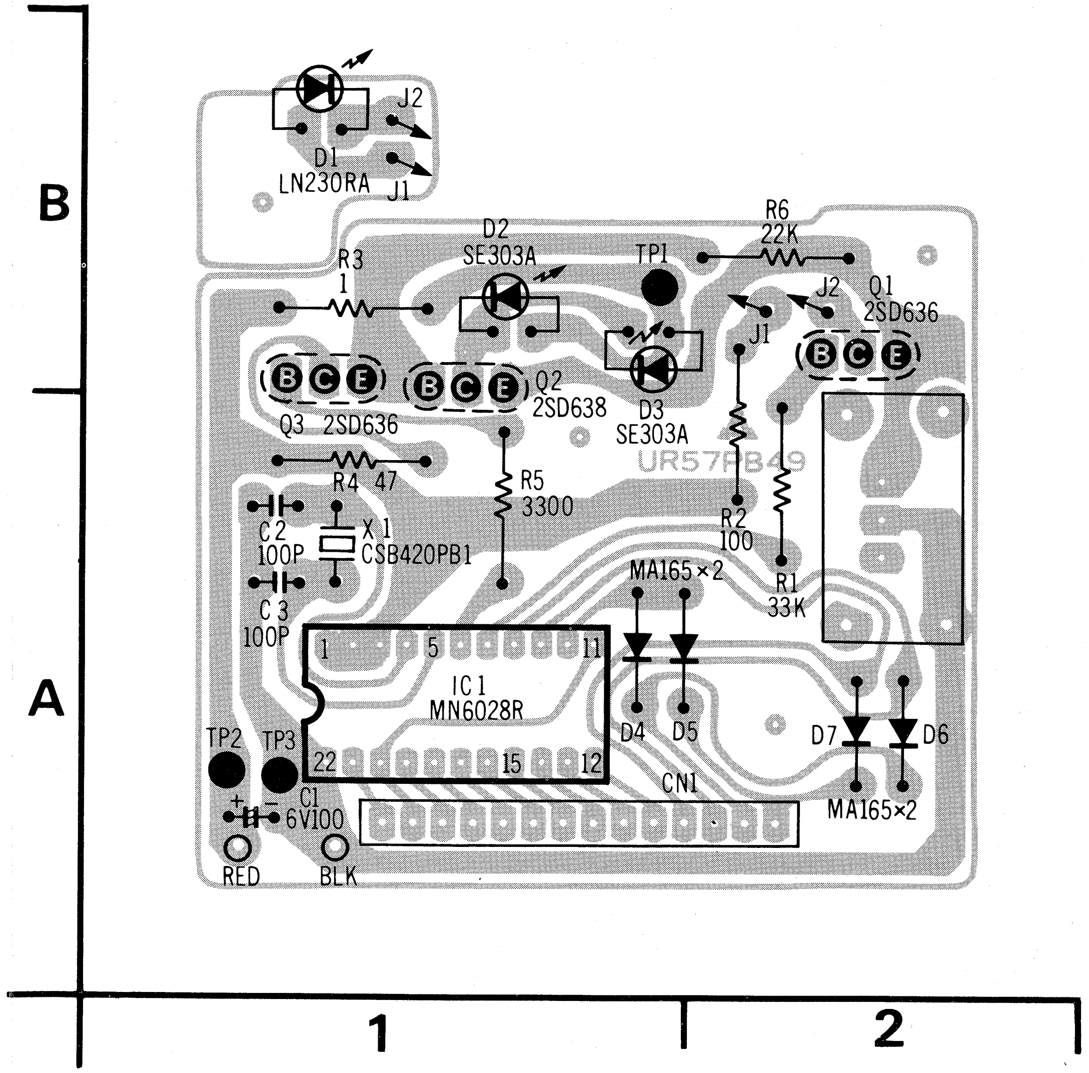
1	REG+12V
2	GND
3	OUT PUT

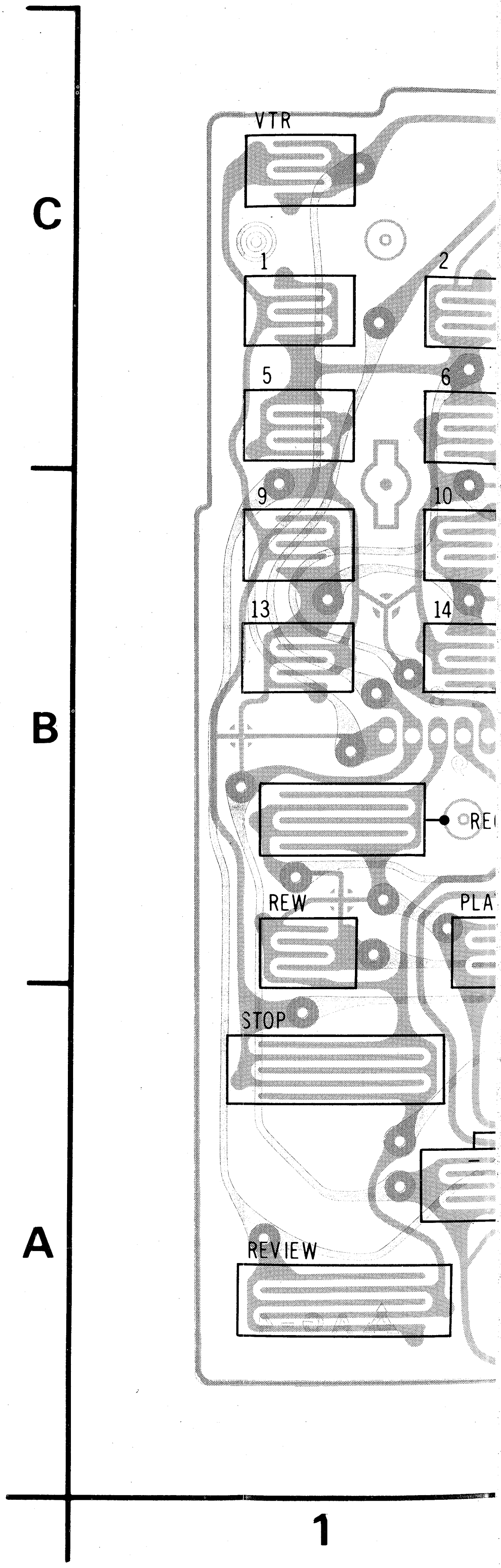
IR WIRELESS RECEIVER SCHEMATIC DIAGRAM

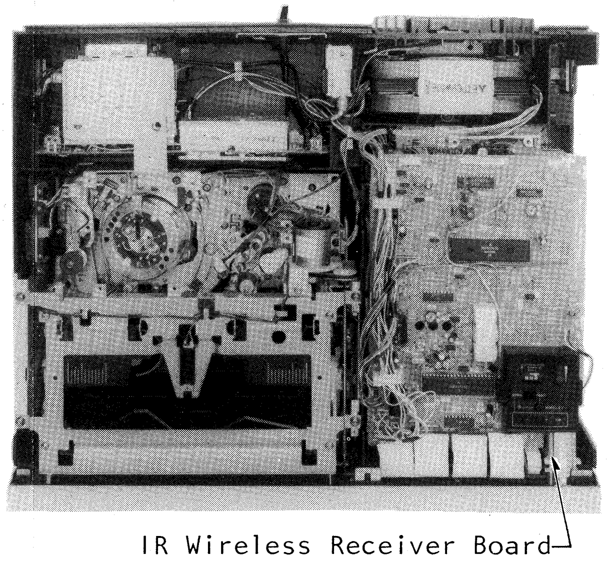

IC6550 μPC1373H
WAVE SHAPER
PEAK DETECTOR
LIMITER
AMP
P7502-1 REG +12V 1
P7502-2 GND 2
P7502-3 OUT PUT 3
P6550
11.6
1.39
11.9
10.6
0
2.05
2.60
11.9
TP6550
TP6551
C6550 0.018
C6551 4700
T6550 ELM7Q 206A
R6550 150K
C6552 16V10
R6551 12
C6553 50V0.47
C6554 16V47
D6550
PN313 or PH302
R6552 1K
C6555 16V10
A
1
2
3


IR Wireless Receiver Board

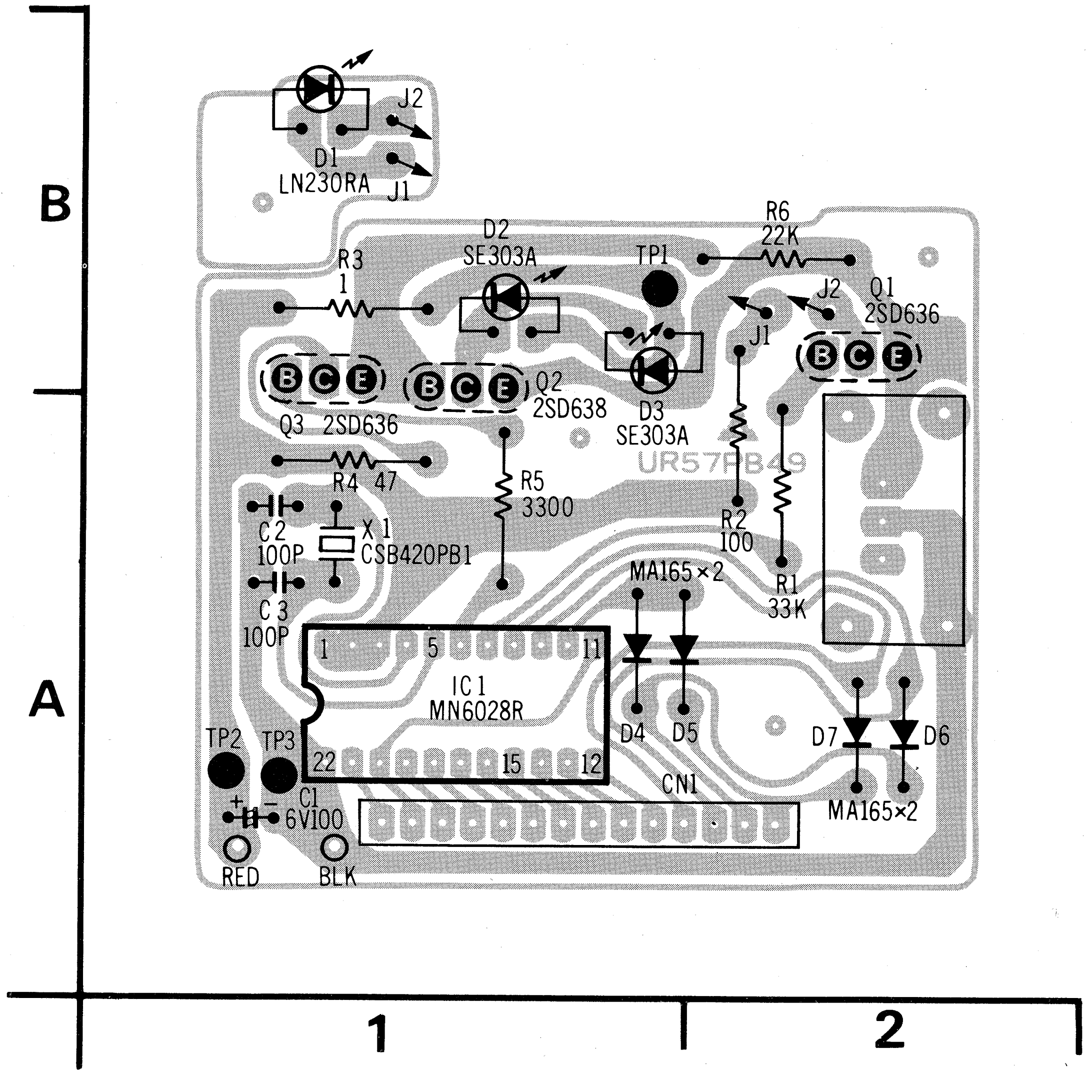
IR WIRELESS TRANSMITTER BOARD

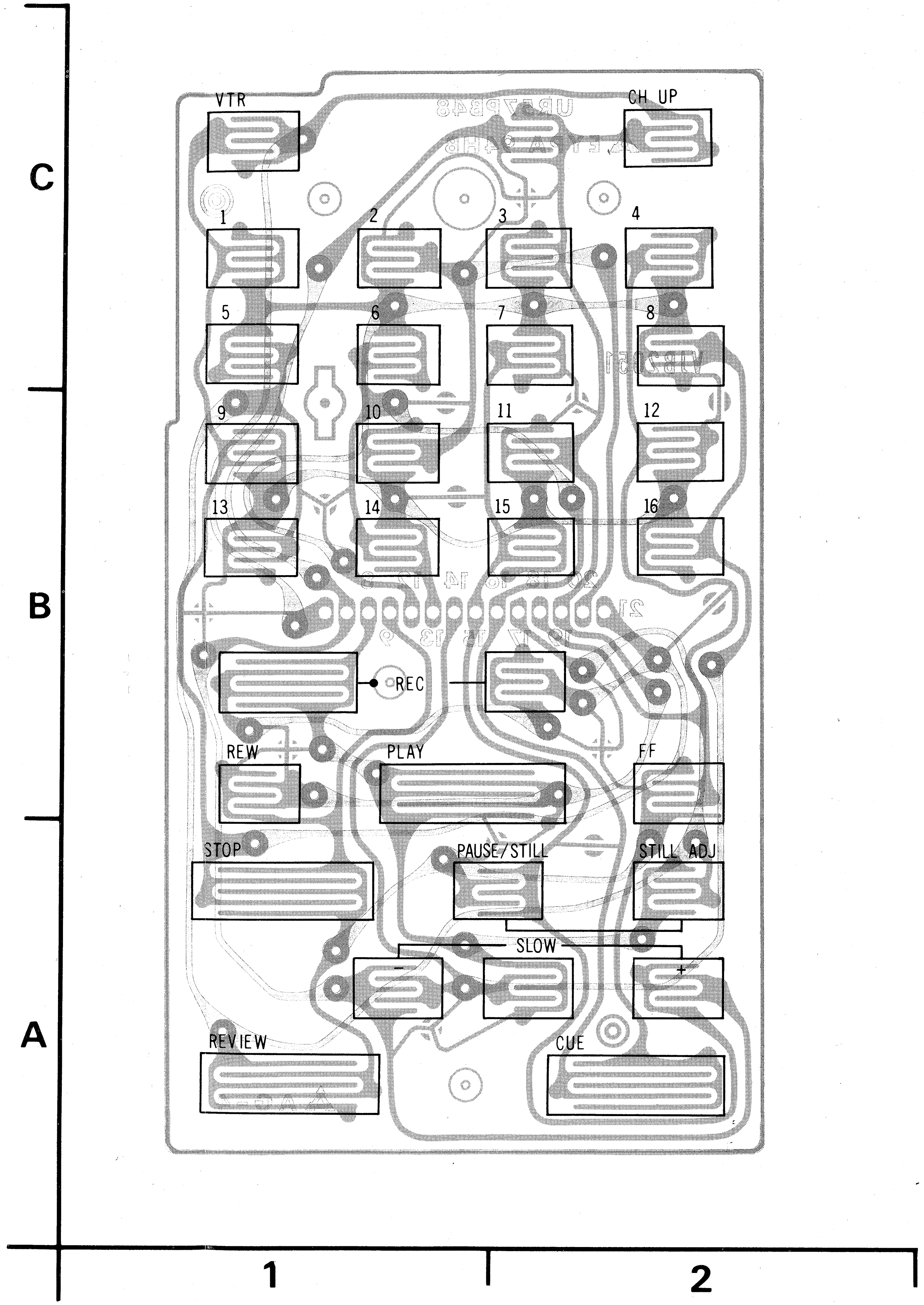

D1 LN230RA
J2
J1
D2 SE303A
TP1
R6 22K
R3 1
J2
J1
Q1 2SD636
Q2 2SD638
D3 SE303A
Q3 2SD636
R4 47
R5 3300
UR57PB49
R2 100
R1 33K
C2 100P
X1 CSB420PB1
C3 100P
MA165×2
IC1 MN6028R
1
5
11
22
15
12
D4
D5
D7
D6
MA165×2
TP2
TP3
C1 6V100
CN1
RED
BLK
A
B
1
2


VTR
1
2
5
6
9
10
13
14
REC
REW
PLA
STOP
REVIEW
C
B
A
1


IR Wireless Receiver Board

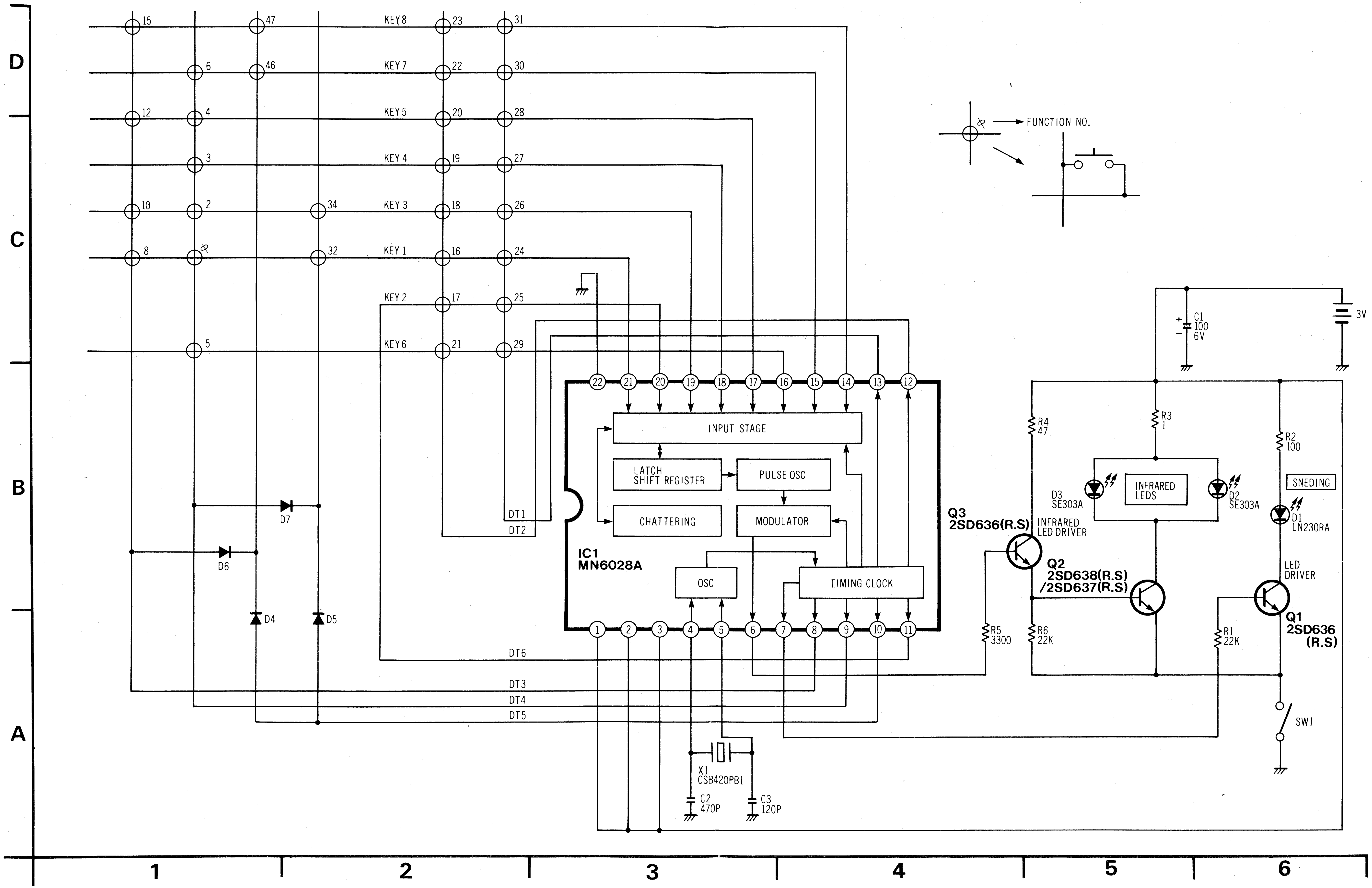
IR WIRELESS TRANSMITTER BOARD


B
A
1
2
D1
LN230RA
J2
J1
D2
SE303A
R6
22K
R3
1
TP1
Q1
2SD636
J2
J1
Q3 2SD636
Q2
2SD638
D3
SE303A
R4 47
R5
3300
UR57PB49
C2
100P
X1
CSB420PB1
C3
100P
R2
100
MA165×2
R1
33K
IC1
MN6028R
1
5
11
22
15
12
D4
D5
D7
D6
MA165×2
CN1
TP2
TP3
C1
6V100
RED
BLK


C
B
A
1
2
VTR
CH UP
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
REC
REW
PLAY
FF
STOP
PAUSE/STILL
STILL ADJ
SLOW
−
+
REVIEW
CUE

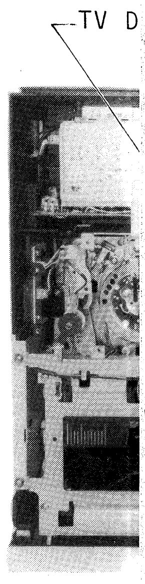
FUNCTION NO.	FUNCTION
0	STOP
2	REW
3	F.F
4	REV
5	CUE
6	PAUSE/STILL
8	REC
10	PLAY
12	
15	SLOW (×1/2)
16	CH1
17	CH2
18	CH3
19	CH4
20	CH5
21	CH6
22	CH7
23	CH8
24	CH9
25	CH10
26	CH11
27	CH12
28	CH13
29	CH14
30	CH15
31	CH16
32	VTR
34	CH UP
46	SLOW +
47	SLOW −

IR WIRELESS SCHEMATIC DIAGRAM



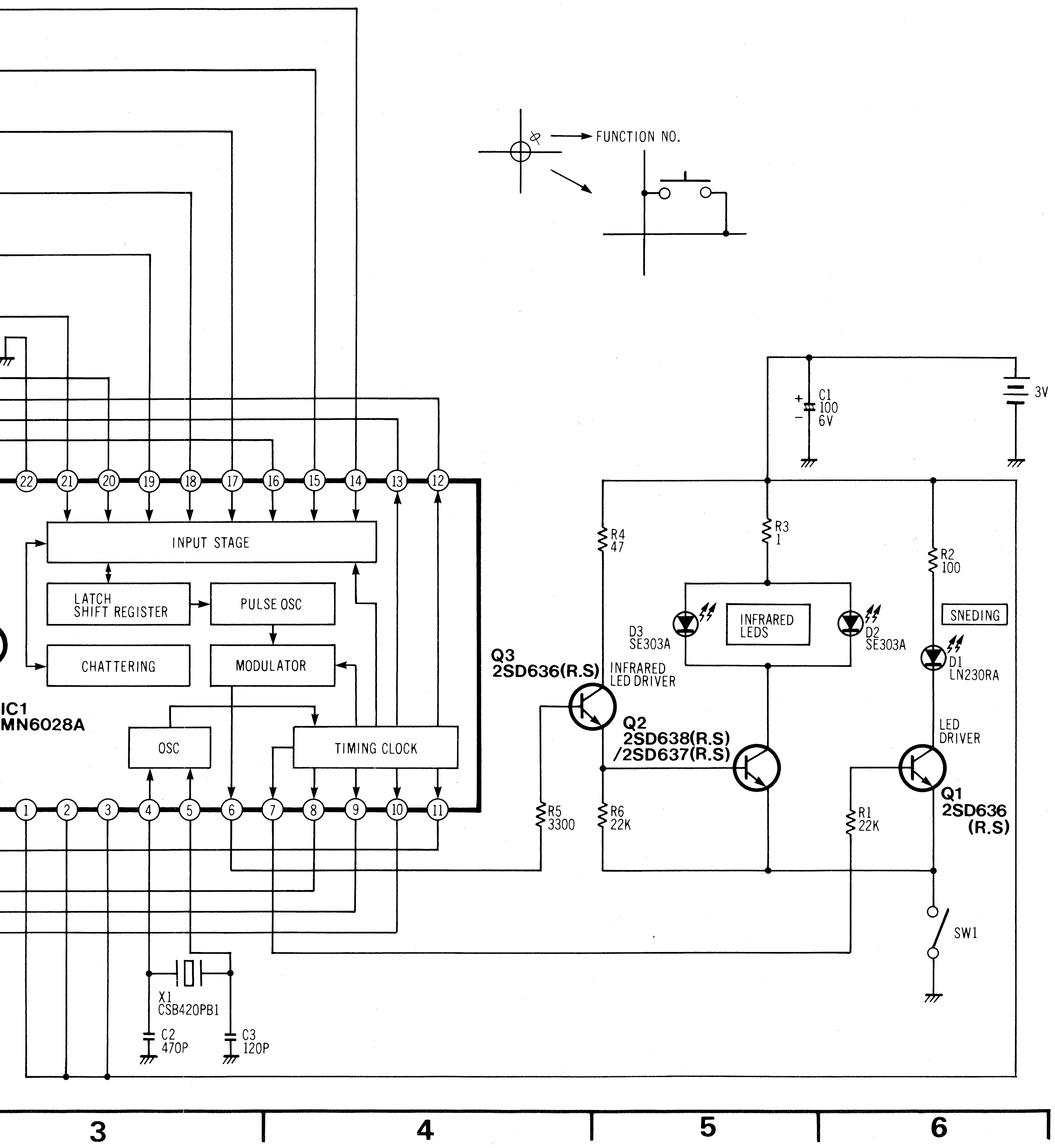
D
C
B
A
1
2
3
4
5
6
KEY 8
KEY 7
KEY 5
KEY 4
KEY 3
KEY 1
KEY 2
KEY 6
15
47
23
31
6
46
22
30
12
4
20
28
3
19
27
10
2
34
18
26
8
∞
32
16
24
17
25
5
21
29
FUNCTION NO.
D7
D6
D4
D5
DT1
DT2
DT6
DT3
DT4
DT5
INPUT STAGE
LATCH
SHIFT REGISTER
PULSE OSC
CHATTERING
MODULATOR
OSC
TIMING CLOCK
IC1
MN6028A
X1
CSB420PB1
C2
470P
C3
120P
C1
100
6V
3V
R4
47
R3
1
R2
100
INFRARED
LEDS
D3
SE303A
D2
SE303A
SNEDING
D1
LN230RA
Q3
2SD636(R.S)
INFRARED
LED DRIVER
Q2
2SD638(R.S)
/2SD637(R.S)
LED
DRIVER
Q1
2SD636
(R.S)
R5
3300
R6
22K
R1
22K
SW1

TOP VIE



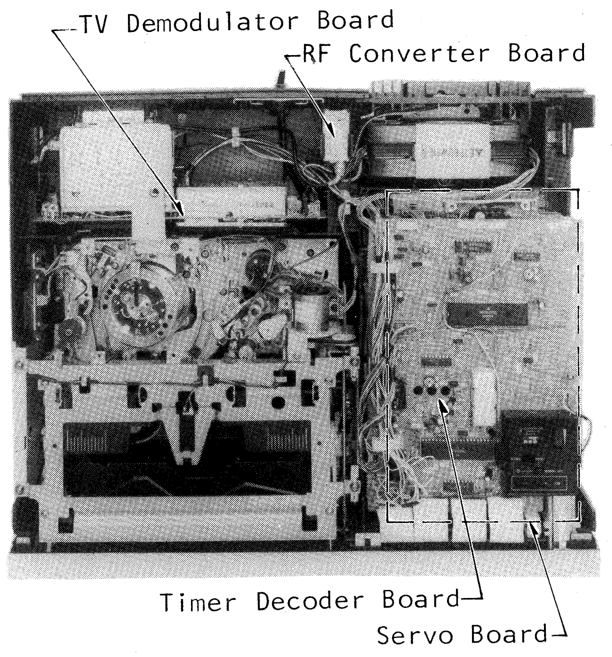
BOTTOM

Lumina
Audio

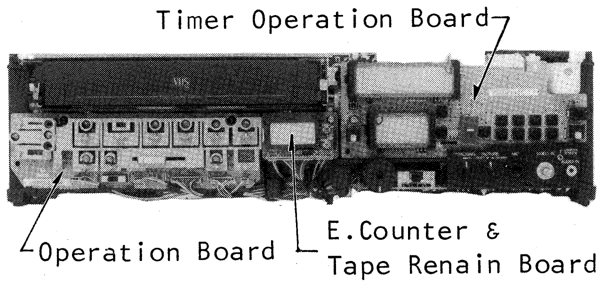

FUNCTION NO.
22
21
20
19
18
17
16
15
14
13
12
INPUT STAGE
LATCH
SHIFT REGISTER
PULSE OSC
CHATTERING
MODULATOR
IC1
MN6028A
OSC
TIMING CLOCK
1
2
3
4
5
6
7
8
9
10
11
X1
CSB420PB1
C2
470P
C3
120P
C1
100
6V
3V
R4
47
R3
1
R2
100
D3
SE303A
INFRARED
LEDS
D2
SE303A
SNEDING
D1
LN230RA
Q3
2SD636(R.S)
INFRARED
LED DRIVER
Q2
2SD638(R.S)
/2SD637(R.S)
LED
DRIVER
Q1
2SD636
(R.S)
R5
3300
R6
22K
R1
22K
SW1
3
4
5
6

CIRCUIT BOARD LAYOUT

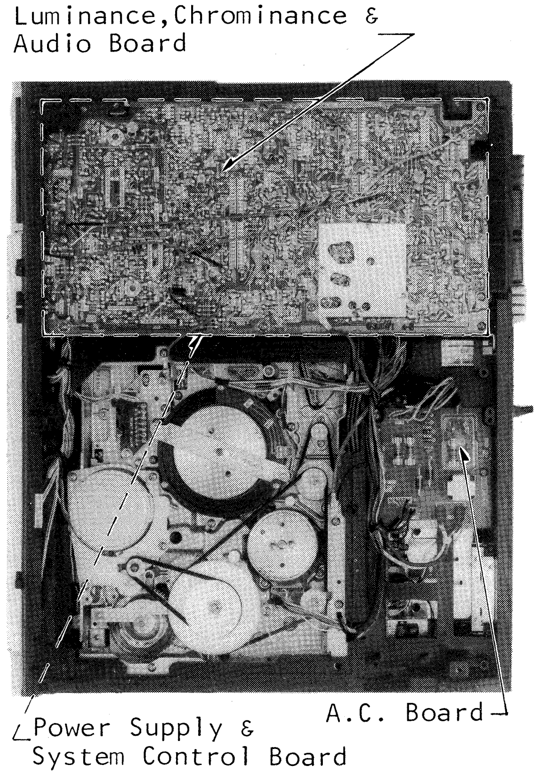
TOP VIEW


TV Demodulator Board
RF Converter Board
Timer Decoder Board
Servo Board

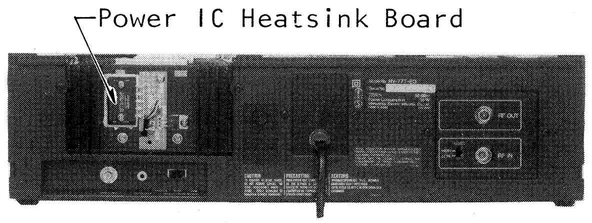
FRONT VIEW


Timer Operation Board
Operation Board
E.Counter &
Tape Renain Board

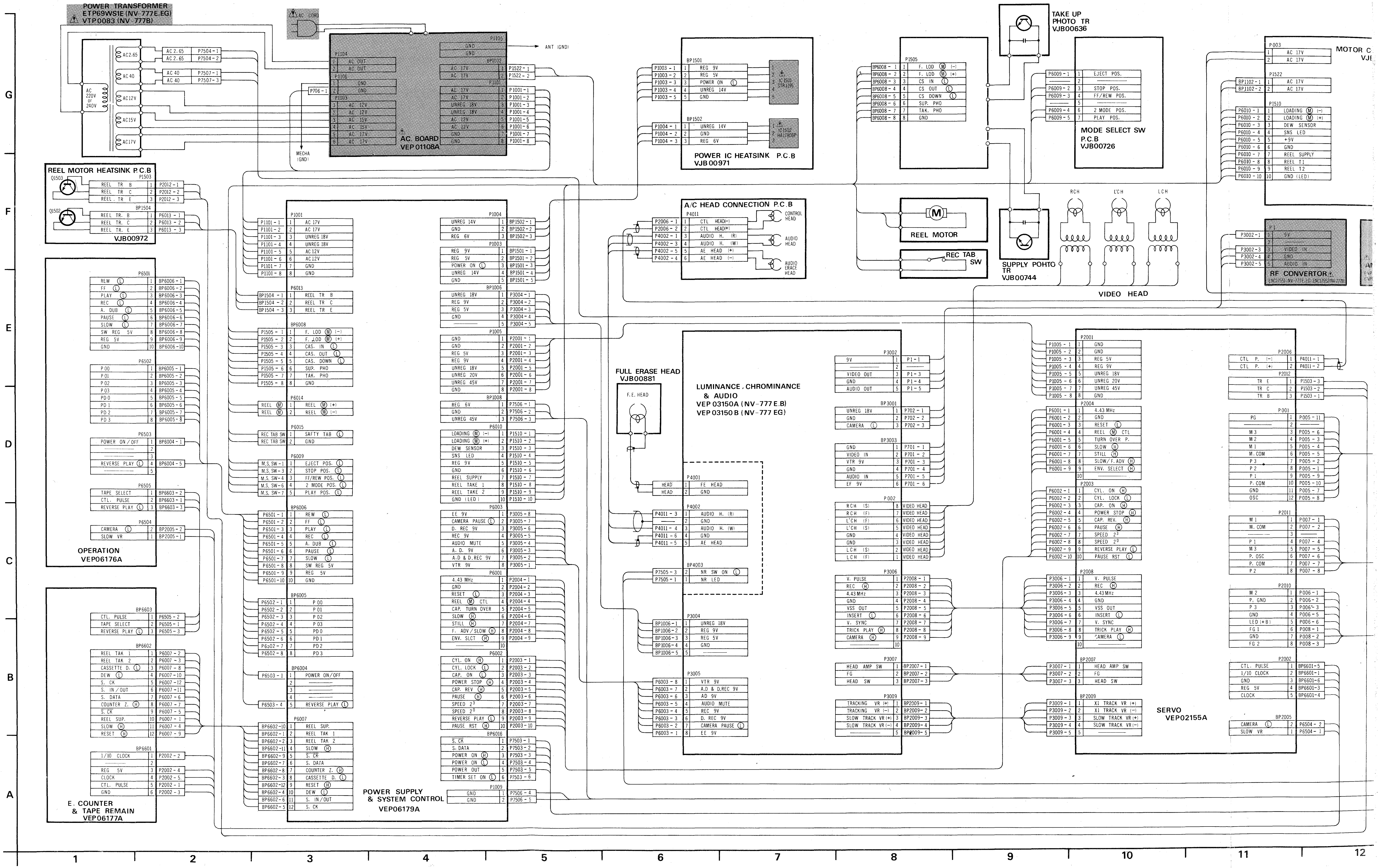
BOTTOM VIEW


Luminance,Chrominance &
Audio Board
Power Supply &
System Control Board
A.C. Board

REAR VIEW


Power IC Heatsink Board

INTERCONNECTION SCHEMATIC DIAGRAM


POWER TRANSFORMER
ETP69WS1E (NV-777E,EG)
VTP0083 (NV-777B)
AC CORD
AC. BOARD
VEP01108A
ANT (GND)
MECHA (GND)
REEL MOTOR HEATSINK P.C.B
VJB00972
OPERATION
VEP06176A
E. COUNTER
& TAPE REMAIN
VEP06177A
POWER SUPPLY
& SYSTEM CONTROL
VEP06179A
POWER IC HEATSINK P.C.B
VJB00971
A/C HEAD CONNECTION P.C.B
CONTROL HEAD
AUDIO HEAD
AUDIO ERACE HEAD
FULL ERASE HEAD
VJB00881
F.E. HEAD
LUMINANCE, CHROMINANCE
& AUDIO
VEP03150A (NV-777E.B)
VEP03150B (NV-777 EG)
TAKE UP
PHOTO TR
VJB00636
MODE SELECT SW
P.C.B
VJB00726
REEL MOTOR
REC TAB SW
SUPPLY POHTO TR
VJB00744
RCH
L'CH
LCH
VIDEO HEAD
MOTOR C
VJE
RF CONVERTOR
SERVO
VEP02155A
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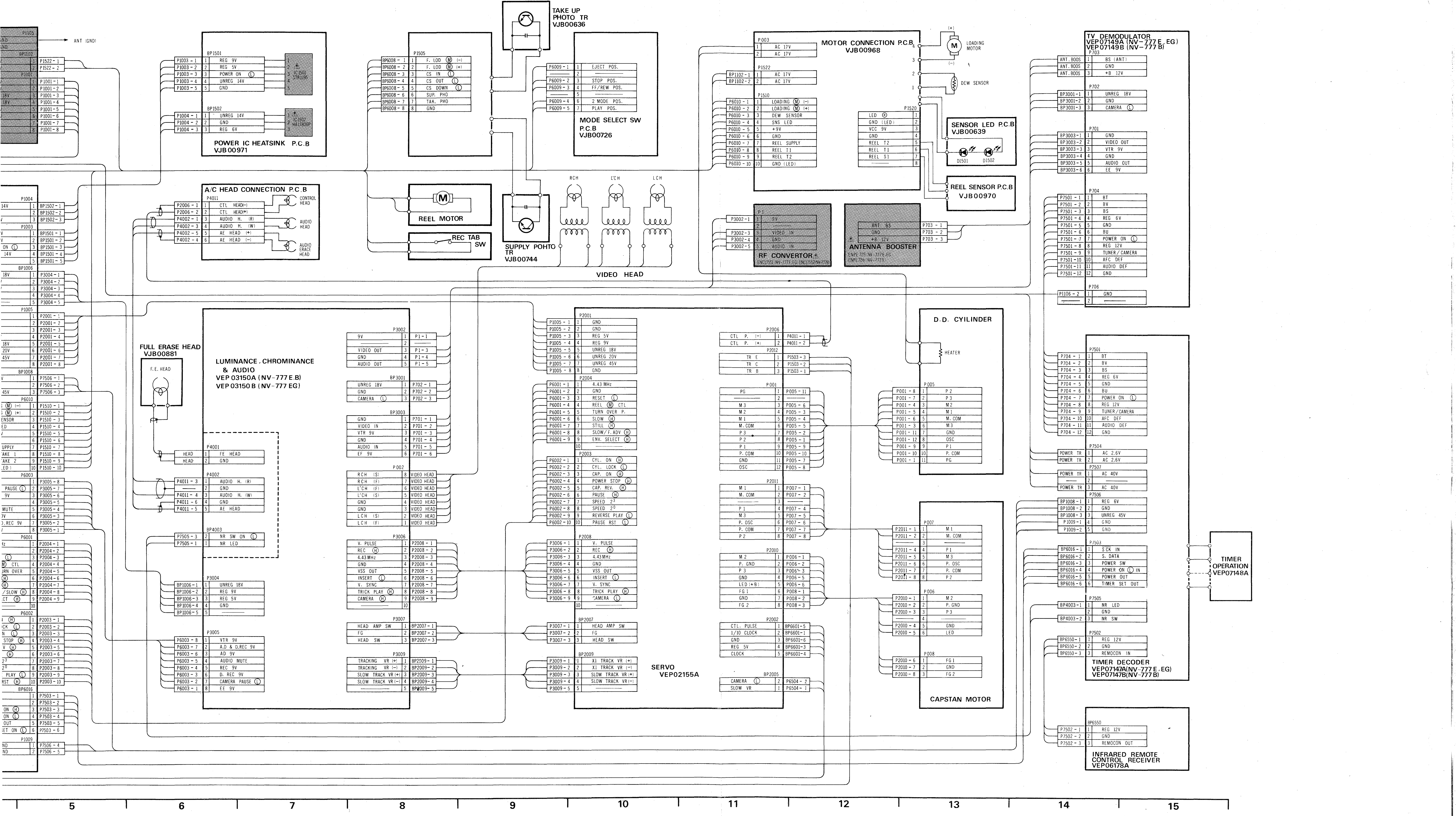
RAM


TAKE UP PHOTO TR VJB00636
POWER IC HEATSINK P.C.B VJB00971
MODE SELECT SW P.C.B VJB00726
MOTOR CONNECTION P.C.B VJB00968
LOADING MOTOR
DEW SENSOR
SENSOR LED P.C.B VJB00639
REEL SENSOR P.C.B VJB00970
TV DEMODULATOR VEP07149A (NV-777E, EG) VEP07149B (NV-777B)
A/C HEAD CONNECTION P.C.B
CONTROL HEAD
AUDIO HEAD
AUDIO ERACE HEAD
REEL MOTOR
REC TAB SW
SUPPLY POHTO TR VJB00744
RCH
L'CH
LCH
VIDEO HEAD
RF CONVERTOR
ANTENNA BOOSTER
FULL ERASE HEAD VJB00881
F.E. HEAD
LUMINANCE, CHROMINANCE & AUDIO VEP03150A (NV-777E.B) VEP03150B (NV-777EG)
SERVO VEP02155A
D.D. CYILINDER
HEATER
CAPSTAN MOTOR
TIMER OPERATION VEP07148A
TIMER DECODER VEP07147A(NV-777E, EG) VEP07147B(NV-777B)
INFRARED REMOTE CONTROL RECEIVER VEP06178A
ANT (GND)
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ORDER NO. VRD-8207-110

Service Manual

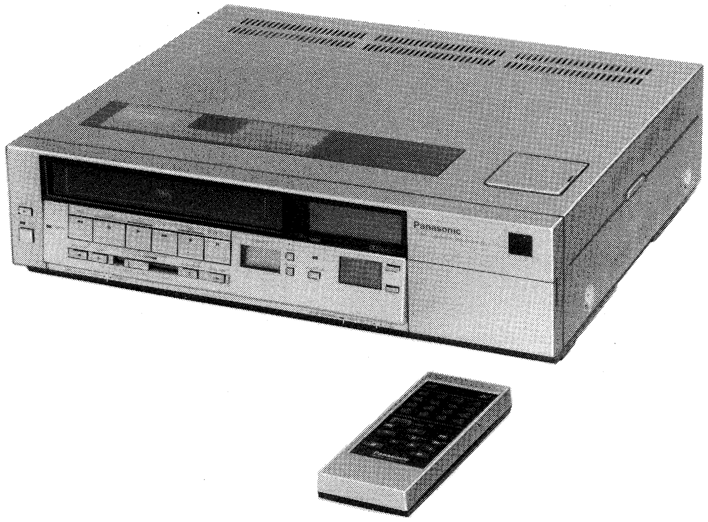
Video Cassette Recorder

Panasonic VHS

NV-777-E -EG -B

Vol. 4

Exploded Views
Replacement Parts List



SPECIFICATIONS

Power Source:	220V AC 50/60Hz (NV-777-E, EG) 240V AC 50/60Hz (NV-777B)
Power Consumption:	Approx. 38 watts
Television System:	CCIR: 625 lines, 50 fields PAL colour signal (NV-777-E/-B) CCIR: 625 lines, 50 fields PAL/SECAM (DDR) colour signal (NV-777-EG)
Video Recording System:	2 rotary heads, helical scanning system Luminance: FM azimuth recording Colour signal: converted subscarrier phase shift recording
Audio Track:	1 track
Tape Format:	Tape width 12.7mm high density tape
Tape Speed:	23.39mm/s
Record/Playback Time:	240 min. with NV-E240
FF/REW Time:	Less than 4.5 min. with NV-E180
Heads:	Video: 3 rotary heads 1 pair for normal recording and playback (R-L Head) 1 pair for trick play (L-L′ Head) (field still and slow) Audio/Control: 1 stationary head Erase: 1 full track erase

Input Level:	Video:	VIDEO IN connector (BNC) 1.0Vp-p, 75Ω terminated
	Audio:	LINE IN jack More than −20dB, 50kΩ
Output Level:	Video:	VIDEO OUT connector (BNC) 1.0Vp-p, 75Ω terminated
	Audio:	LINE OUT jack −6dB, less than 1kΩ
	RF Modulated:	UHF channel 36±4CH 73dBμ±4dBμ 75Ω terminated
Weight:		10.4kg
Dimensions:		430(W)×115(H)×372(D)mm
Accessory Supplied:		1 pc. DIN-RF Cable VJA0130 1 pc. Video Cassette Tape (NV-777-E/-B) 1 pc. Wireless Remote Controller, NV-A17-E
Optional Accessories:		Video cassette tape: NV-E240 Approx. 344m, 240 min. NV-E180 Approx. 258m, 180 min. NV-E120 Approx. 174m, 120 min. NV-E60 Approx. 88m, 60 min. Video Camera, WV-2600E, WV-3000E, WV-3200E

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

CONTENTS

SPECIFICATIONS .... Cover

INNER PARTS LOCATION 4- 1

  1. TOP VIEW 4- 1

  2. BOTTOM VIEW 4- 2

EXPLODED VIEWS 4- 3

  1. Transport Section 4- 3

  2. Moving Mechanism Section 4- 4

  3. Chassis Parts Section 4- 5

  4. Chassis Frame Section -(1)................................ 4- 6

  5. Chassis Frame Section -(2)................................ 4- 7

  6. Casing Parts Section 4- 8

  7. Packing Parts Section 4- 9

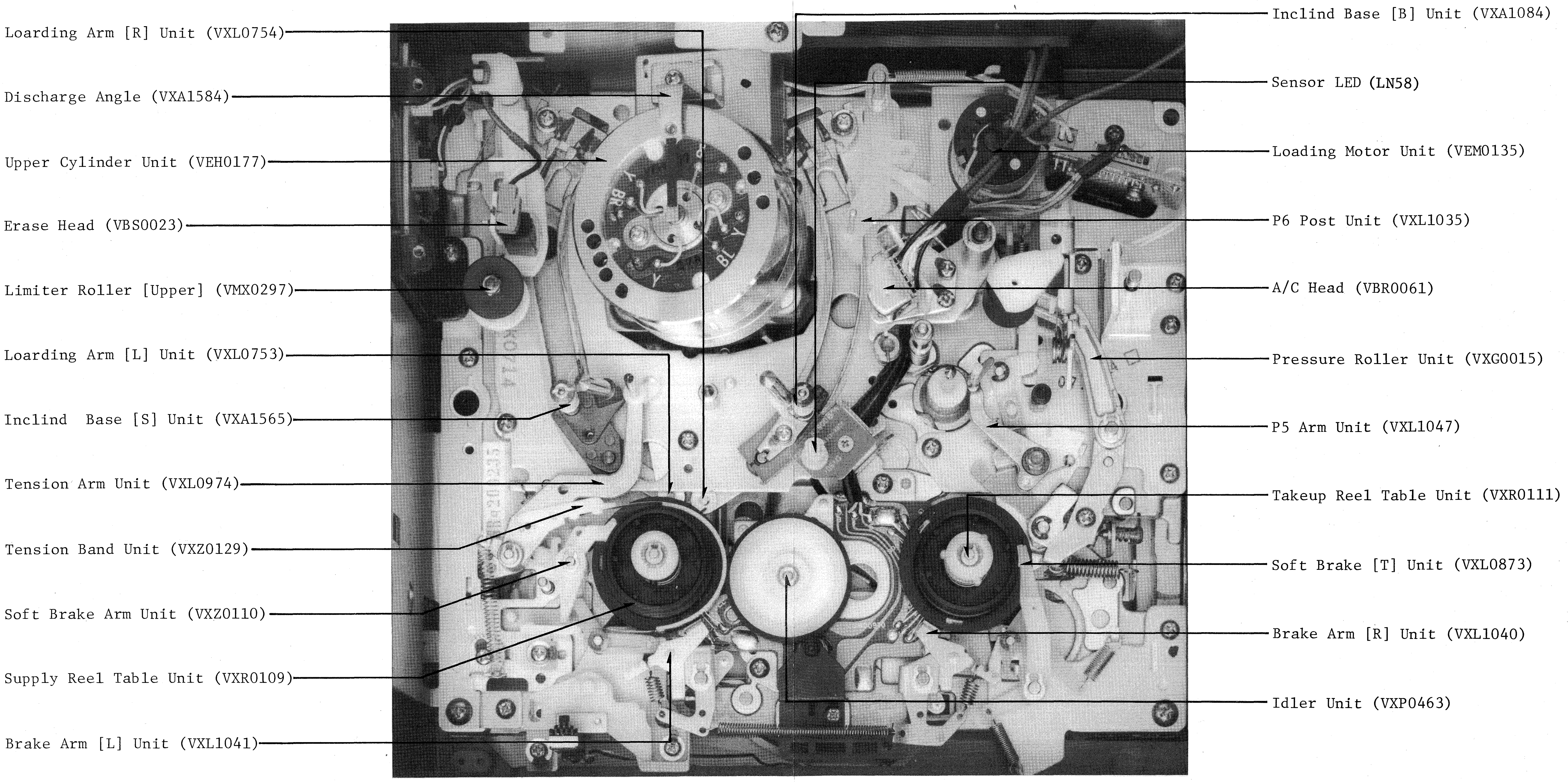
  8. Remote Control Transmitter Section 4-10

MECHANICAL REPLACEMENT PARTS LIST 4-11

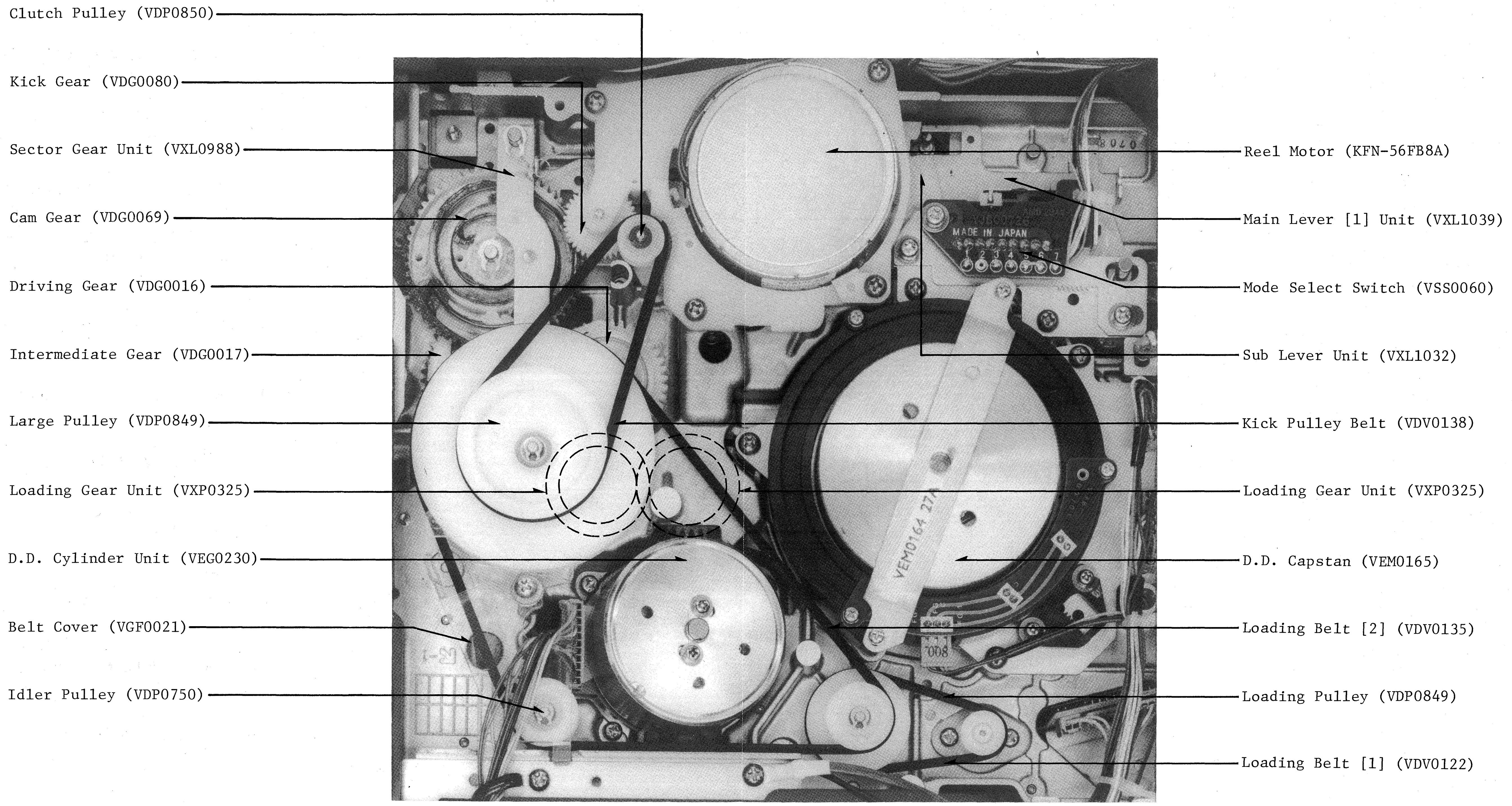
ELECTRICAL REPLACEMENT PARTS LIST 4-14

INNER PARTS LOCATION

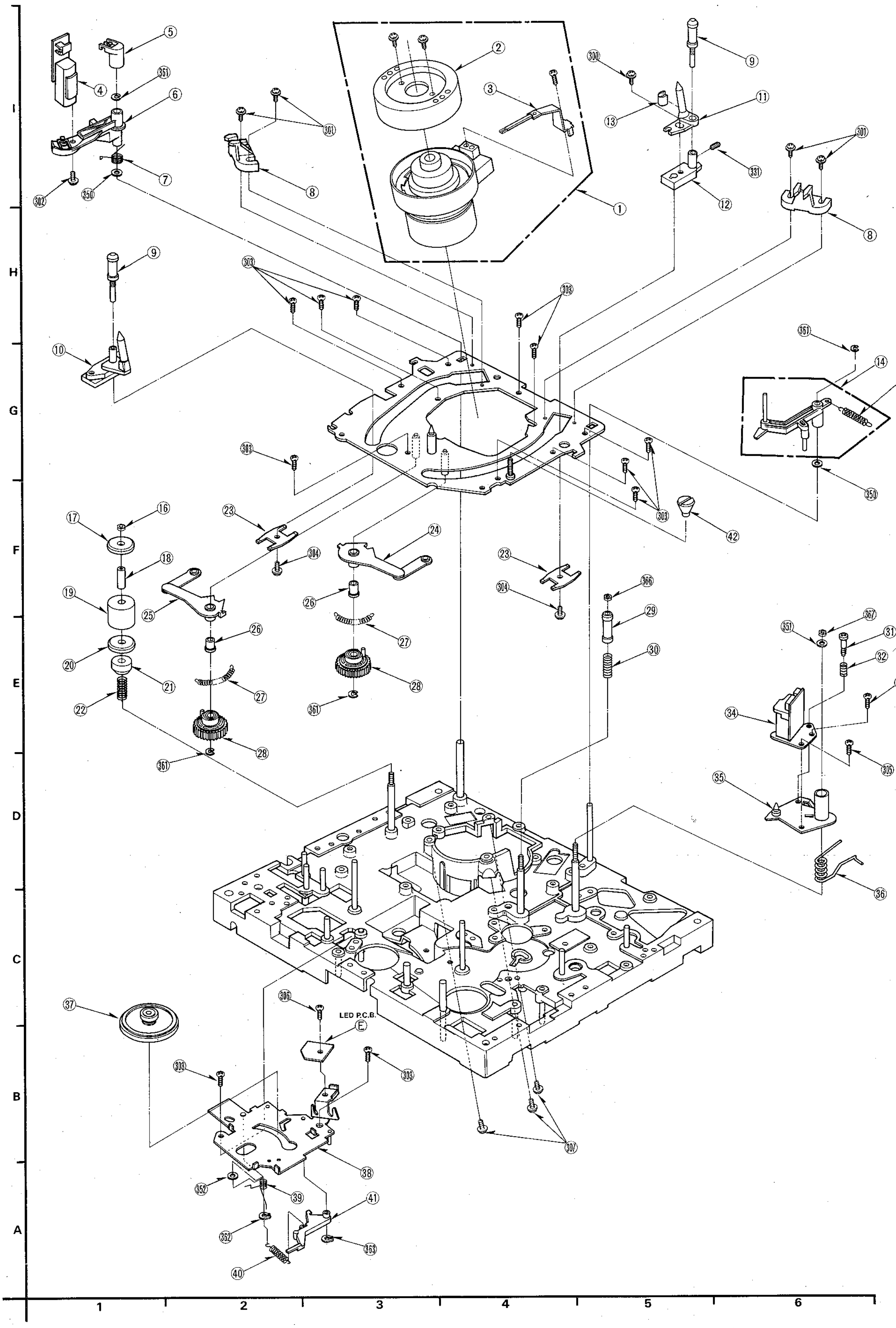
Top View


Loarding Arm [R] Unit (VXL0754)
Discharge Angle (VXA1584)
Upper Cylinder Unit (VEH0177)
Erase Head (VBS0023)
Limiter Roller [Upper] (VMX0297)
Loarding Arm [L] Unit (VXL0753)
Inclind Base [S] Unit (VXA1565)
Tension Arm Unit (VXL0974)
Tension Band Unit (VXZ0129)
Soft Brake Arm Unit (VXZ0110)
Supply Reel Table Unit (VXR0109)
Brake Arm [L] Unit (VXL1041)
Inclind Base [B] Unit (VXA1084)
Sensor LED (LN58)
Loading Motor Unit (VEM0135)
P6 Post Unit (VXL1035)
A/C Head (VBR0061)
Pressure Roller Unit (VXG0015)
P5 Arm Unit (VXL1047)
Takeup Reel Table Unit (VXR0111)
Soft Brake [T] Unit (VXL0873)
Brake Arm [R] Unit (VXL1040)
Idler Unit (VXP0463)

Bottom View


Clutch Pulley (VDP0850)
Kick Gear (VDG0080)
Sector Gear Unit (VXL0988)
Cam Gear (VDG0069)
Driving Gear (VDG0016)
Intermediate Gear (VDG0017)
Large Pulley (VDP0849)
Loading Gear Unit (VXP0325)
D.D. Cylinder Unit (VEG0230)
Belt Cover (VGF0021)
Idler Pulley (VDP0750)
Reel Motor (KFN-56FB8A)
Main Lever [1] Unit (VXL1039)
Mode Select Switch (VSS0060)
Sub Lever Unit (VXL1032)
Kick Pulley Belt (VDV0138)
Loading Gear Unit (VXP0325)
D.D. Capstan (VEM0165)
Loading Belt [2] (VDV0135)
Loading Pulley (VDP0849)
Loading Belt [1] (VDV0122)
MADE IN JAPAN
VEM0164 27A

EXPLODED VIEWS ❶ *Transport Section*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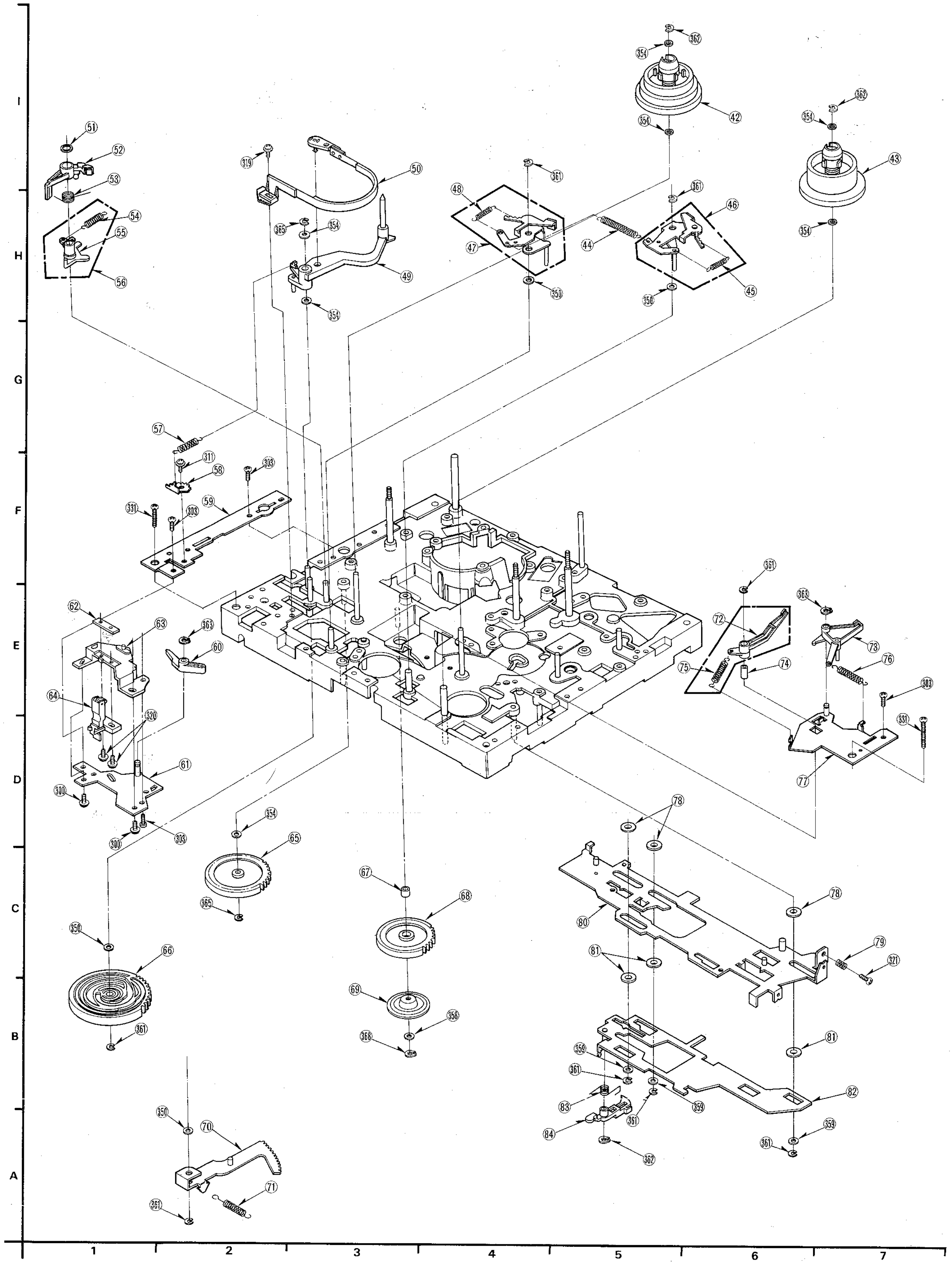
❷ *Moving Mechanism Section*



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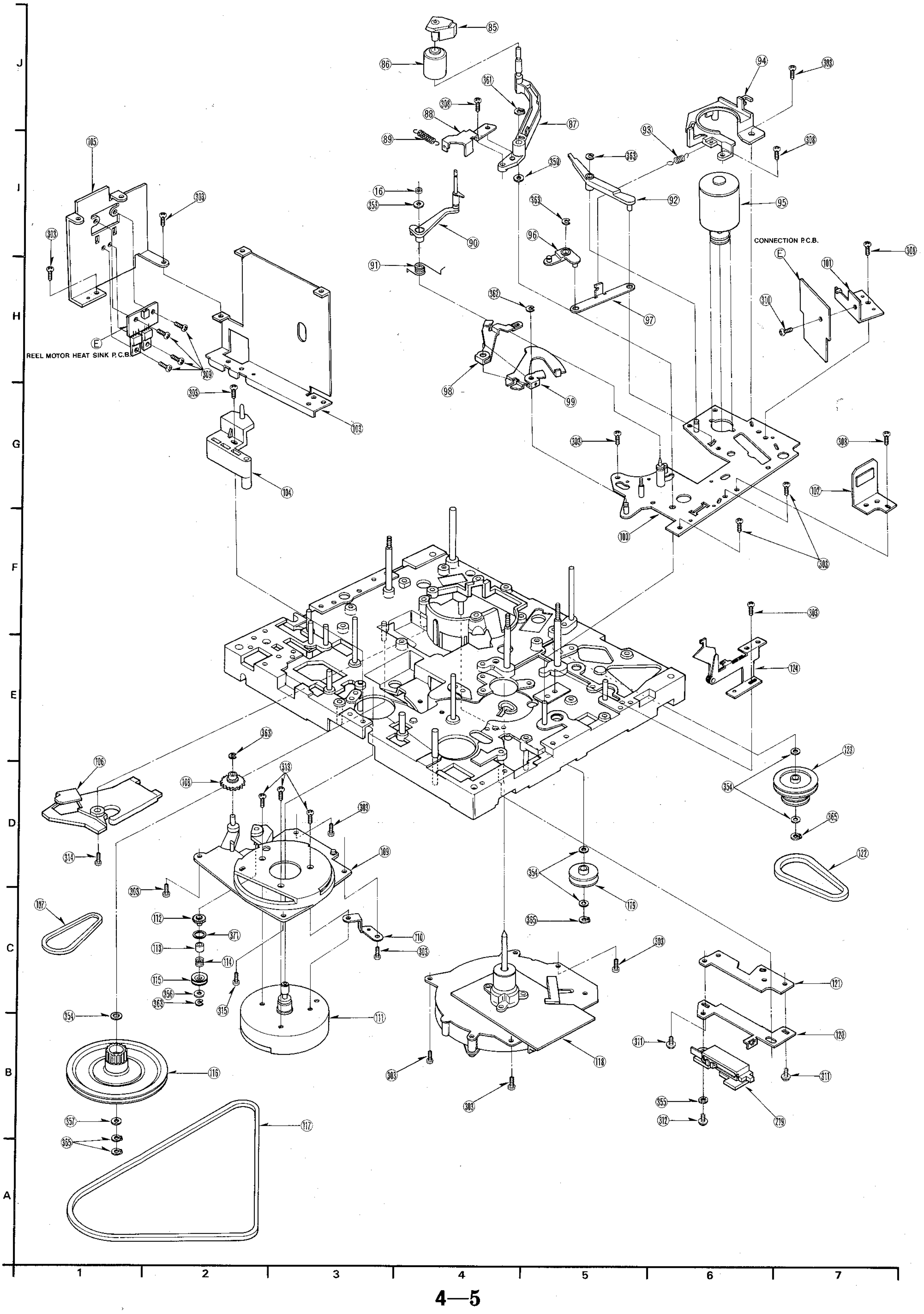
❸ *Chassis Parts Section*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CONNECTION P.C.B.
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REEL MOTOR HEAT SINK P.C.B.
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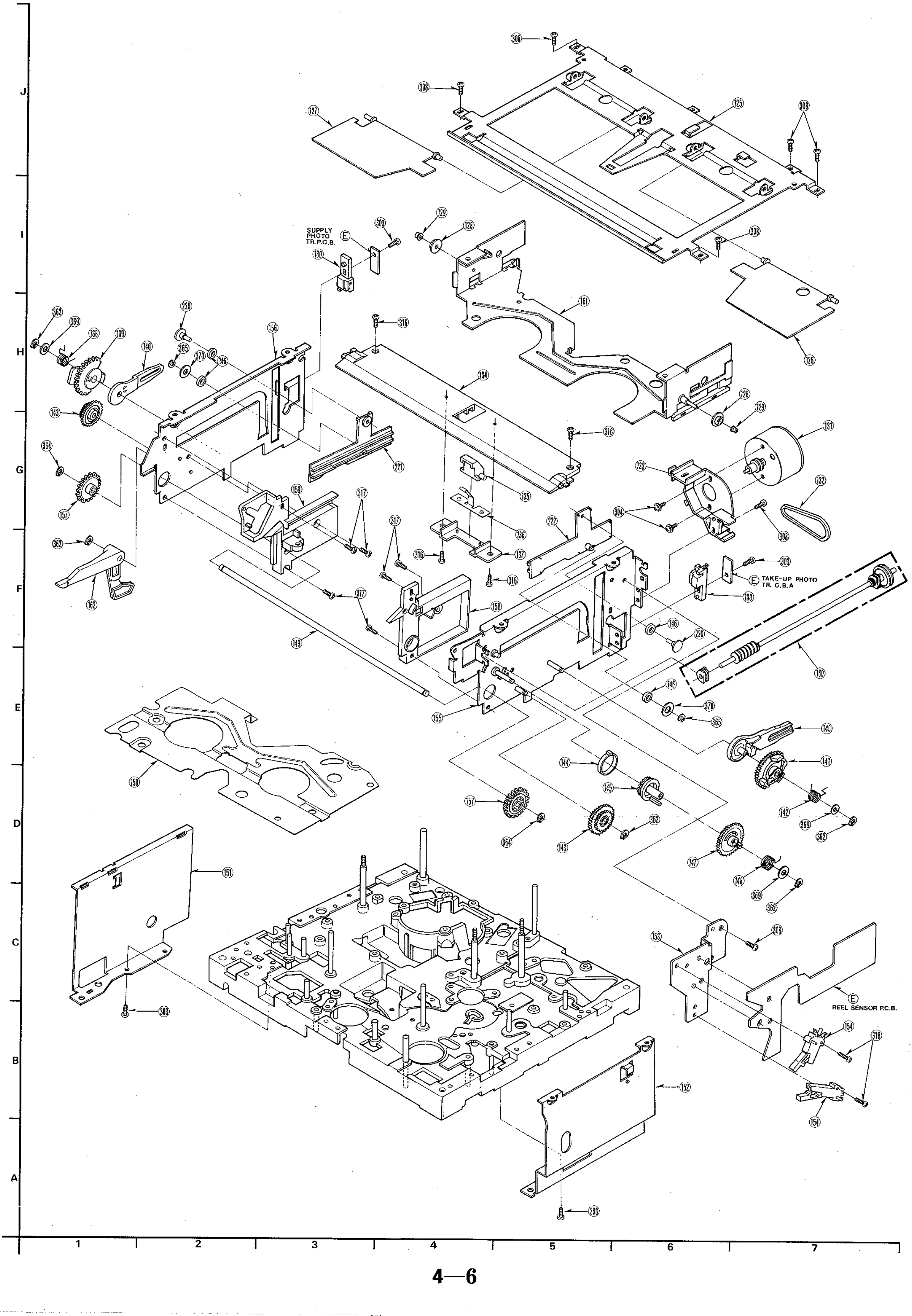
❹ *Chassis Frame Section -(1)*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SUPPLY PHOTO TR.P.C.B.
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TAKE-UP PHOTO TR. C.B.A
130
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REEL SENSOR P.C.B.
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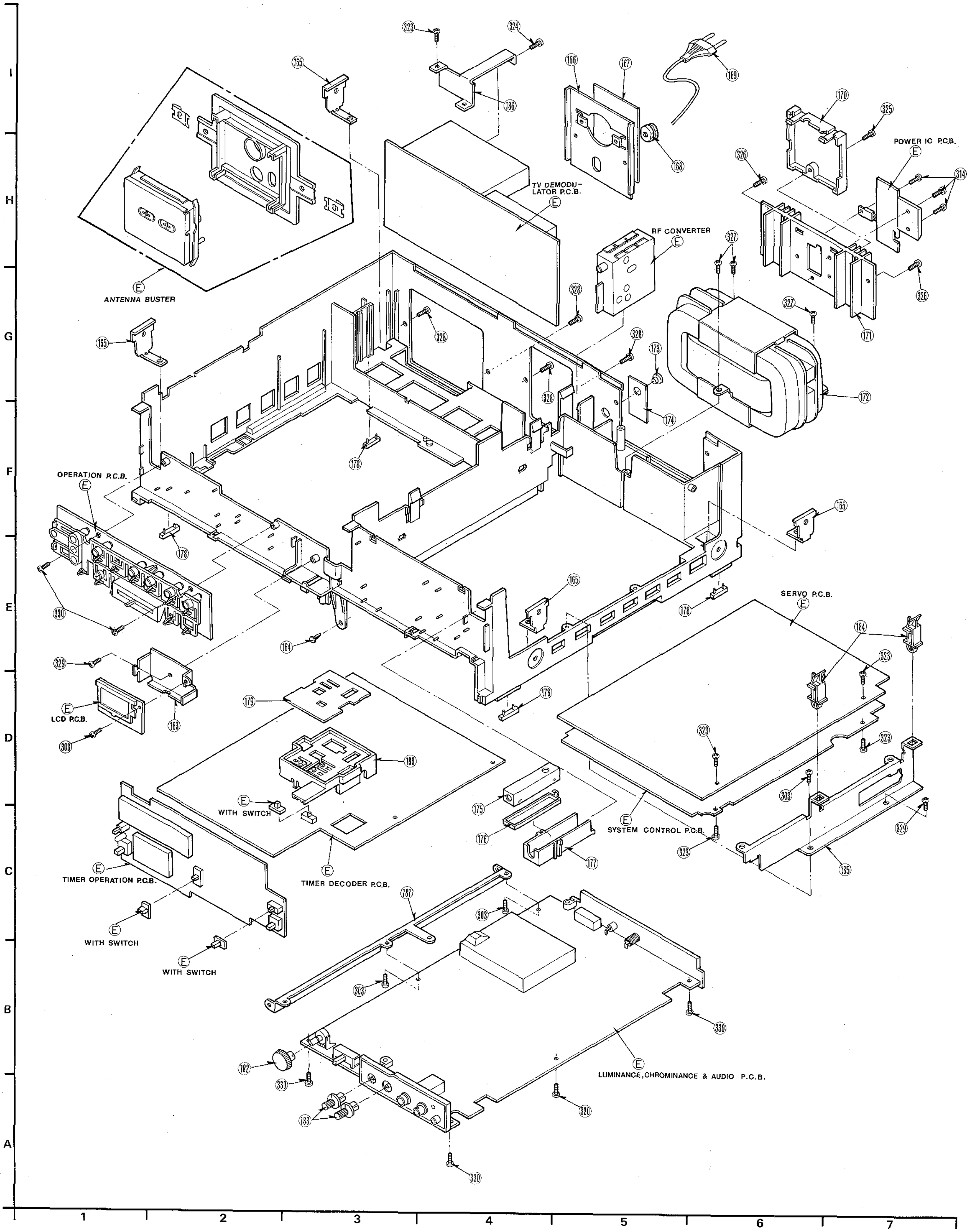
❺ *Chassis Frame Section -(2)*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POWER IC P.C.B.
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TV DEMODU-LATOR P.C.B.
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RF CONVERTER
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E
ANTENNA BUSTER
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173
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OPERATION P.C.B.
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SERVO P.C.B.
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LCD P.C.B.
163
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WITH SWITCH
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SYSTEM CONTROL P.C.B.
323
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TIMER OPERATION P.C.B.
E
TIMER DECODER P.C.B.
181
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WITH SWITCH
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WITH SWITCH
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LUMINANCE, CHROMINANCE & AUDIO P.C.B.
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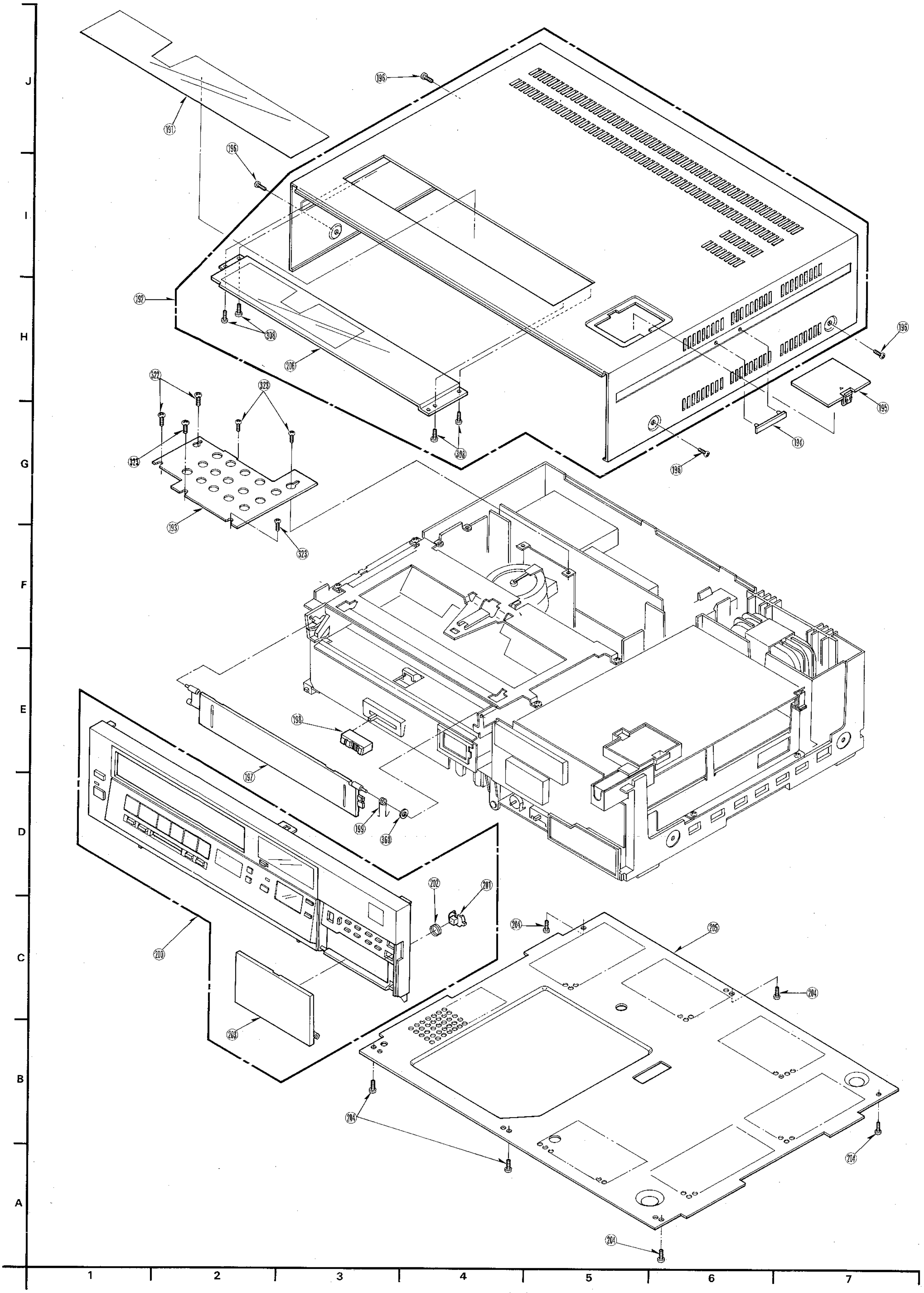
❻ *Casing Parts Section*



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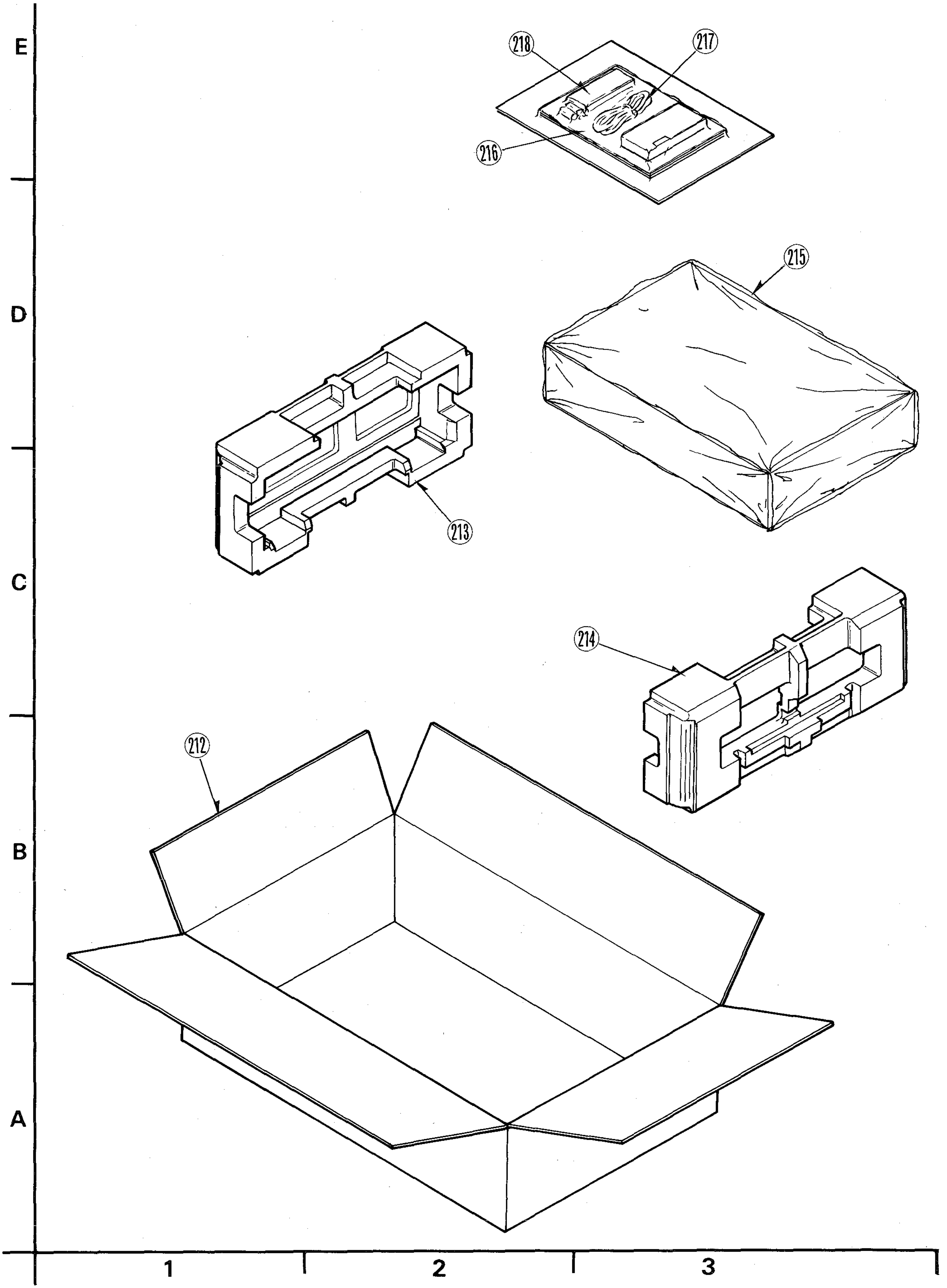
❼ *Packing Parts Section*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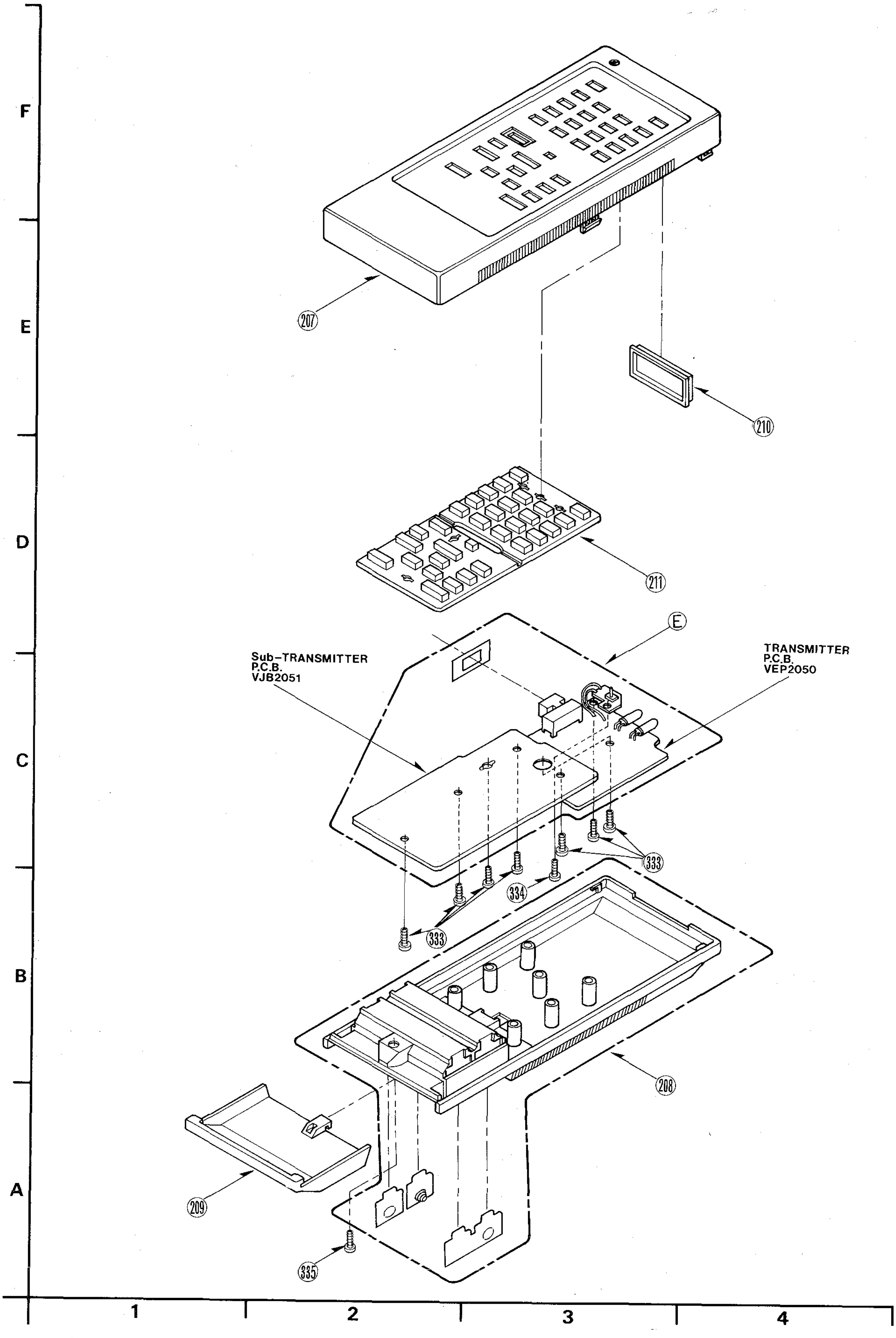
❽ *Remote Control Trausmitter section*



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Sub-TRANSMITTER P.C.B. VJB2051
TRANSMITTER P.C.B. VEP2050
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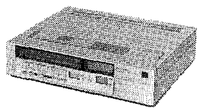
MECHANICAL REPLACEMENT PARTS LIST

Model No. NV-777E/EG/B



Notes:
1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified by ⚠ have special characteristics important for safety. When replacing any of these components, use only the original ones.

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
1 (1)		VEG0230	DD Cylinder Unit	1	⚠
2 (1)		VEH0177	Upper Cylinder Unit	1	
3 (1)		VXA1584	Discharge Angle	1	
4 (1)		VBS0023	Erase Head	1	
5 (1)		VMD0369	Wire Holder	1	
6 (1)		VML1370	Erase Head Lever	1	
7 (1)		VMB1005	Erase Head Lever Spring	1	
8 (1)		VMD0100	Post Stopper	2	
9 (1)		VXP0431	Roller Post Unit	2	
10 (1)		VXA1565	Inclind Base (S) Unit	1	
11 (1)		VXA1084	Inclind Base (B) Unit	1	
12 (1)		VXA1755	Shaft Holder (T) Unit	1	
13 (1)		VMX0301	Guide Snap	1	
14 (1)		VXL1035	P6 Post Unit	1	
15 (1)		VMB1081	P6 Spring	1	
16 (1)		VHD0045	Nut	1	
17 (1)		VMX0297	Limiter Roller (Upper)	1	
18 (1)		VMX0288	Collar	1	
19 (1)		VDP0759	Supply Roller	1	
20 (1)		VMX0456	Limiter (S)	1	
21 (1)		VMX0457	Limiter Roller (Lower)	1	
22 (1)		VMB0754	Supply Limiter Spring	1	
23 (1)		VMA4436	Shaft Holder Spring (A)	2	
24 (1)		VXL0754	Loading Arm (R) Unit	1	
25 (1)		VXL0753	Loading Arm (L) Unit	1	
26 (1)		VMX0257	Arm Sleeve	2	
27 (1)		VMB0669	Loading Spring	2	
28 (1)		VXP0325	Loading Gear Unit	2	
29 (1)		VMX0280	Post Sleeve	1	
30 (1)		VMB0699	P4 Spring	1	
31 (1)		VHD0054	Adjust Screw	1	
32 (1)		VMB0404	Adjust Spring	1	
33 (1)		VHD0089	Adjust Screw	1	
34 (1)		VBR0061	A/C Head	1	
35 (1)		VXA1571	Head Base (B) Unit	1	
36 (1)		VMB0997	A/C Head Spring	1	
37 (1)		VXP0463	Idler Unit	1	
38 (1)		VXA1710	Hall IC Base 1 Unit	1	
39 (1)		VMB1083	Idler Spring	1	
40 (1)		VMB0882	Idler Stopper Spring	1	
41 (1)		VML1433	Idler Stopper Lever	1	
42 (2)		VXR0109	Supply Reel Table Unit	1	
43 (2)		VXR0111	Takeup Reel Table Unit	1	
44 (2)		VMB0661	Brake Arm Spring	1	
45 (2)		VMB0660	Brake Lever Spring	1	
46 (2)		VXL1040	Brake Arm (R) Unit	1	
47 (2)		VXL1041	Brake Arm (L) Unit	1	
48 (2)		VMB0660	Brake Lever Spring	1	
49 (2)		VXL0974	Tension Arm Unit	1	
50 (2)		VXZ0129	Tension Band Unit	1	
51 (2)		VMX0249	Soft Brake Stopper	1	
52 (2)		VXZ0110	Soft Brake Arm Unit	1	
53 (2)		VMB0701	Soft Brake Coil Spring	1	
54 (2)		VMB1024	Soft Brake Spring (II)	1	
55 (2)		VML1372	Soft Brake Lever A (II)	1	
56 (2)		VXZ0134	Soft Brake Lever A (II) 1 Unit	1	
57 (2)		VMB1004	Tension Spring	1	
58 (2)		VMA5813	Adjust Hook	1	
59 (2)		VMA6052	Position Plate	1	
60 (2)		VXL0875	S Brake Release Unit	1	
61 (2)		VXA1574	Brake Release Base Unit	1	
62 (2)		VMA5372	Nut Plate	1	
63 (2)		VMA5826	Cassette Support Angle	1	
64 (2)		VSM0043	Safety Tab Switch	1	
65 (2)		VDG0017	Intermediate Gear	1	
66 (2)		VDG0069	Cam Gear	1	
67 (2)		VMX0268	Gear Sleeve	1	
68 (2)		VDG0016	Driving Gear	1	
69 (2)		VMA4088	Holder Plate	1	
70 (2)		VXL0988	Sector Gear Unit	1	
71 (2)		VMB1002	Sub Rod Spring	1	
72 (2)		VXZ0112	Soft Brake Unit	1	
73 (2)		VXL0873	Soft Brake (T) Unit	1	
74 (2)		VMX0367	Brake Sleeve	1	
75 (2)		VMB0885	Soft Brake Spring	1	
76 (2)		VMB0886	Soft Brake Spring (T)	1	
77 (2)		VXA1706	Chassis Angle (R) 1 Unit	1	
78 (2)		VMX0122	Slide Washer	3	
79 (2)		VMB0680	Adjust Spring	1	
80 (2)		VXL1039	Main Lever 1 Unit	1	
81 (2)		VMX0471	Slide Washer	3	
82 (2)		VXL1032	Sub Lever Unit	1	
83 (2)		VMB0890	Kick Lever Spring	1	
84 (2)		VML1432	Kick Lever	1	
85 (3)		VMX0365	Pressure Roller Cap	1	
86 (3)		VXG0015	Pressure Roller Unit	1	
87 (3)		VXL1046	Pressure Roller Lever Unit	1	
88 (3)		VMA6069	Spring Hook Plate	1	
89 (3)		VMB0880	Pressure Spring	1	
90 (3)		VXL1047	P5 Arm Unit	1	
91 (3)		VMB0891	P5 Arm Spring	1	
92 (3)		VML1431	P6 Release Lever	1	
93 (3)		VMB1082	Rod Spring	1	
94 (3)		VMD0440	Cover Panel	1	
95 (3)		VEM0135	Loading Motor Unit	1	⚠
96 (3)		VML1430	P6 Lever	1	
97 (3)		VMM0109	P6 Rod	1	
98 (3)		VML1429	Sub Action Lever	1	
99 (3)		VML1270	Action Lever	1	
100 (3)		VXA1709	P5 Post Base 1 Unit	1	
101 (3)		VMA6059	PC Board Angle	1	
102 (3)		VEK1293	Dew Sensor Unit	1	
103 (3)		VMA6053	Chassis Bracket	1	
104 (3)		VMD0442	Brake Release Bracket	1	
105 (3)		VSC0844	Head Sink	1	
106 (3)		VGF0021	Belt Cover	1	
107 (3)		VDV0138	Kick Pulley Belt	1	
108 (3)		VDG0080	Kick Gear	1	
109 (3)		VXA1708	Reel Motor Bracket 1 Unit	1	
110 (3)		VMA6055	Earth Angle	1	
111 (3)		KFN-56FB8A	Reel Motor	1	⚠
112 (3)		VDG0081	Clutch Gear	1	
113 (3)		VMX0405	Clutch Collar	1	
114 (3)		VMB0897	Clutch Spring	1	
115 (3)		VDP0850	Clutch Pulley	1	
116 (3)		VDP0849	Large Pulley	1	
117 (3)		VDV0135	Loading Belt (2)	1	
118 (3)		VEM0165	DD Capstan	1	⚠
119 (3)		VDP0750	Idler Pulley	1	
120 (3)		VMA6056	Switch Holder Angle (A)	1	
121 (3)		VMA6057	Switch Holder Angle (B)	1	
122 (3)		VDV0122	Loading Belt (1)	1	
123 (3)		VDP0735	Loading Pulley	1	
124 (3)		VXA1726	Opener Unit	1	
125 (4)		VMA6074	Top Plate	1	
126 (4)		VMD0458	Plate (R)	1	
127 (4)		VMD0457	Plate (L)	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
128 (4)		VDP0902	Cassette Holder Roller	2	
129 (4)		VDP0903	Wiper Arm Roller	2	
130 (4)		VMD0091	Photo Tr Bracket (L) (R)	2	
131 (4)		VRD0011	Motor	1	⚠
132 (4)		VDV0074	Loading Belt	1	
133 (4)		VMD0455	Motor Bracket	1	
134 (4)		VMD0452	Cassette Guide	1	
135 (4)		VMD0453	Safety Tab Knob	1	
136 (4)		VMB1091	Safety Tab Spring	1	
137 (4)		VMD0454	Spring Holder	1	
138 (4)		VMB1089	Wiper Spring (L)	1	
139 (4)		VDG0115	Wiper Gear	1	
140 (4)		VML1436	Wiper Arm	2	
141 (4)		VDG0116	Wiper Gear	1	
142 (4)		VMB1090	Wiper Spring (R)	1	
143 (4)		VGD0120	Gear	2	
144 (4)		VMD0456	Stopper Ring	1	
145 (4)		VDG0118	Cluth Gear	1	
146 (4)		VDP0839	Guide Roller	4	
147 (4)		VDG0117	Warm Wheel	1	
148 (4)		VMB1093	Clutch Spring	1	
149 (4)		VMS2304	Main Shaft	1	
150 (4)		VMA6134	Cover Angle	1	
151 (4)		VMA6063	Chassis Holder Angle (L)	1	
152 (4)		VMA6062	Chassis Holder Angle (R)	1	
153 (4)		VMA6073	Switch Angle	1	
154 (4)		VSM0046	Switch	2	
155 (4)		VXA0716	Side Plate (R) Unit	1	
156 (4)		VXA0717	Side Plate (L) Unit	1	
157 (4)		VDG0119	Shaft Gear	2	
158 (4)		VMD0459	Front Guide (R)	1	
159 (4)		VMD0449	Front Guide (L)	1	
160 (4)		VXA1754	Warm Shaft Pulley Unit	1	
161 (4)		VXA0714	Cassette Holder 1 Unit	1	
162 (4)		VML1437	Front Opener Link	1	
163 (5)		VMP0264	LCD Angle	1	
164 (5)		VHN0017	Clip	1	
165 (5)		VMA6075	Holder Angle	4	
166 (5)		VMA6078	AC Cord Support Angle	1	⚠
167 (5)		VGN1989	AC Cord Panel	1	
168 (5)		VJF0107	AC Cord Bushing	1	
169 (5)		VJA0111	AC Cord	1	⚠
170 (5)		VGQ0419	Power IC Cover	1	
171 (5)		VSC0842	Power IC Heat Sink	1	
172 (5)		ETP69WS1E	Power Transformer	1	NV-777E,EG ⚠
172 (5)		VTP0083	Power Transformer	1	NV-777B ⚠
173 (5)		VMG0272	RF Converter Bushing	1	
174 (5)		VGN1991	RF Converter Panel	1	
175 (5)		VSC0858	Shield Case (Upper)	1	
176 (5)		VSC0859	Shield Case (Under)	1	
177 (5)		VGQ0416	Infra Remocon Holder	1	
178 (5)		VKA0026	Rubber Foot	4	
179 (5)		VGN1993	Preset VR Plate	1	NV-777E,EG
179 (5)		VGN2054	Preset VR Plate	1	NV-777B
180 (5)		VGQ0415	Preset VR Case	1	
181 (5)		VMP0262	Video PC Board Angle	1	
182 (5)		VGT0311	Slow Tracking Knob	1	
183 (5)		VGT0306	Knob	2	
184 (5)		VGQ0414	Support	2	
185 (5)		VMP0263	Servo, Syscon PC Board Angle	1	
186 (5)		VMA6146	PC Board Angle	1	NV-777E,EG
186 (5)		VMA6156	PC Board Angle	1	NV-777B

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
191 (6)		VQL1800	Top Smoke Sheet	1	
192 (6)		VYP0707	Top Panel Unit	1	
193 (6)		VSC0832	Shield Plate	1	
194 (6)		VGQ0430	Hall Cap	1	
195 (6)		VYK0444	Preset Cover Unit	1	
196 (6)		VHD0108	Screw	4	
197 (6)		VXA0715	Blinder Panel Unit	1	
198 (6)		VGT0304	Slide Button	1	
199 (6)		VMB1092	Blinder Spring	1	
200 (6)		VYP0706	Front Panel Unit	1	
201 (6)		VGU0595	Timer Rec Button	1	
202 (6)		VMB1086	Timer Rec Spring	1	
203 (6)		VKF0189	Timer Door	1	
204 (6)		VHD0059	Screw	6	
205 (6)		VKU0184	Bottom Plate	1	
206 (6)		VKW0161	Top Smoke Panel	1	
207 (7)		VYK0430	Top Case Unit	1	
208 (7)		VYK0473	Bottom Case Unit	1	
209 (7)		VYK0474	Battery Cover Unit	1	
210 (7)		VKW0066	Filer Plate	1	
211 (7)		VGU0616	Rubber Plate	1	
212 (8)		VPG1204	Packing Case	1	NV-777EG
212 (8)		VPG1227	Packing Case	1	NV-777E
212 (8)		VPG1228	Packing Case	1	NV-777B
213 (8)		VPN0812	Cushion (L)	1	
214 (8)		VPN0813	Cushion (R)	1	
215 (8)		VPF0114	Polyethylene Bag	1	
216 (8)		VQF0916	Fan Bag Kit	1	NV-777EG ⚠
216 (8)		VQF0917	Fan Bag Kit	1	NV-777E ⚠
216 (8)		VQF0918	Fan Bag Kit	1	NV-777B ⚠
217 (8)		VJA0130	Din Cable	1	
218 (8)		NV-A17-E	Remote Control Unit	1	(Sales)
219 (3)		VSS0060	Mode Select Switch	1	
220 (4)		VMS2305	Slider Roler Pin	2	
221 (4)		VMD0448	Slider(L)	1	
222 (4)		VMD0450	Slider(R)	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Washer		
350 (1,2,3)		XWXV4D9		7	
351 (1)		XWG4		1	
352 (1)		XWXV4Y9		1	
353 (3)		XWXV3F8		1	
354 (2,3)		XWXV3D6		12	
355 (3)		XWC3B		1	
356 (3)		XWXV3Z6		1	
357 (3)		XWXV3A6		1	
358 (2)		XWA3B		1	
359 (2)		XWXV4D11		3	
360 (6)		XWGV3D6		1	
361 (1,2,3)		XUEV4FP		13	
362 (1,2,3,4)		XUC3FP		8	
363 (1,2,3)		XUC25FP		7	
364 (4)		XUC4FP		2	
365 (2,3,4)		XUEV3FP		10	
366 (1)		XNG3BS		1	
367 (1)		XNG4BS		1	
368 (2)		XNG3CS		1	
369 (4)		XWGV4D9		3	
370 (4)		XWGV4D11		2	
371 (3)		XWXV51F66		1	
			Screw		
300 (1,2)		XYN3+F8S		3	
301 (1)		XYN3+F12S		4	
302 (1)		XYN2+C5		1	
303 (1,2,3,4,5)		XTV3+8F		38	
304 (1,4)		XYN3+C4S		4	
305 (1)		XSN3D+10S		1	
306 (1)		XSS26+6		1	
307 (1)		XYN3+C8S		3	
308 (3,4,6)		XTV3+6F		16	
309 (3)		XTV3+8J			
310 (1,3)		XYN3+C6S		2	
311 (3,2)		XYN3+F6S		3	
312 (3)		XYN3+F10S		1	
313 (3)		XSS3+4S		3	
314 (3,5)		XTV3+10F		4	
315 (3)		XTV3+10G		1	
316 (4)		XTB3+8FK		4	
317 (4)		XTB3+8FK		6	
318 (4)		XTN2+8F		2	
319 (2)		XYC3+BF8		1	
320 (2)		XYN2+F10		2	
321 (2)		XSN3+10S		1	
322 (6)		XTV3+8JR		2	
323 (5,6)		XTV3+8FR		9	
324 (5)		XYN3+C6		1	
325 (5)		XTV3+12JK		1	
326 (5)		XTV3+10JK		2	
327 (5)		XTV4+15A		3	
328 (5)		XSS3+10K		4	
329 (5)		XTV3+8G		2	
330 (5)		XTV3+10GR		5	
331 (1)		XXE2D25FP		1	
332 (1)		XYN3+B10BNS		2	
333 (7)		XTB2+4G		7	
334 (7)		XTN26+4G		1	
335 (7)		XTN3+6G		1	

ELECTRICAL REPLACEMENT PARTS LIST

Model No. NV-777E/EG/B

Notes:
1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified by ⚠ have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
3. Unless otherwise specified,
   All resistors are in OHMS (Ω), 1/4W ± 5% carbon. K=1,000Ω, M=1,000KΩ.
   All capacitors are in MICROFARADS (μF), ± 10% P=μμF.

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP01108A	AC P. C. BOARD UNIT	1	⚠
	VEP02155A	SERVO P. C. BOARD UNIT	1	
	VEP03150A	LUMINANCE, CHROMINANCE	1	NV-777E, B
		AUDIO P. C. BOARD UNIT		
	VEP03150B	LUMINANCE, CHROMINANCE	1	NV-777EG
		AUDIO P. C. BOARD UNIT		
	VEP06176A	OPERATION P. C. BOARD UNIT	1	
	VEP06177A	E. COUNTER & TAPE REMAIN	1	
		P. C. BOARD UNIT		
	VEP06178A	INFRARED REMOTE CONTROL	1	
		RECIEVER P. C. BOARD UNIT		
	VEP06179A	POWER SUPPLY & SYSTEM	1	
		CONTROL P. C. BOARD UNIT		
	VEP07147A	TIMER DECODER P. C. BOARD	1	NV-777E, EG
		UNIT		
	VEP07147B	TIMER DECODER P. C. BOARD	1	NV-777B
		UNIT		
	VEP07148A	TIMER OPERATION P. C.	1	
		BOARD UNIT		
	VEP07149A	TV DEMODULATOR P. C.	1	NV-777E, EG
		BOARD UNIT		
	VEP07149B	TV DEMODULATOR P. C.	1	NV-777B
		BOARD UNIT		
	VJB00636	TAKE-UP PHOTO SENSOR	1	
		P. C. BOARD		
	VJB00639	SENSOR LED P. C. BOARD	1	
	VJB00744	SUPPLY PHOTO SENSOR	1	
		P. C. BOARD		
	VJB00971	POWER IC HEATSINK P. C.	1	
		BOARD		
	VJB00972	REEL MOTOR HEATSINK	1	
		P. C. BOARD		
	VJB00968	MOTOR CONNECTION P. C.	1	
		BOARD		
	VJB00969	FRONT LOADING MOTOR	1	
		CONNECTION P. C. BOARD		

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VJB00970	REEL SENSOR P. C. BOARD	1	
	ENC17551	RF CONVERTER UNIT	1	NV-777E, EG ⚠
	ENC17552	RF CONVERTER UNIT	1	NV-777B ⚠
	ENPE725	ANTENNA BOOSTER	1	NV-777E, EG ⚠
	ENPE726	ANTENNA BOOSTER	1	NV-777B ⚠
	TNV77759F2	TUNER UNIT	1	NV-777E, EG ⚠
	TNV87521F2	TUNER UNIT	1	NV-777B ⚠
	ETP69WS1E	POWER TRANSFORMER	1	NV-777E,EG ⚠
	VTP0083	POWER TRANSFORMER	1	NV-777B ⚠
	VEP01108A	AC P. C. Board Unit		
		Diodes		
D1013	30D1		1	⚠
D1014-1017	10E1		4	⚠
D1018	30D1		1	⚠
		Capacitor		
C1014	ECKF1H103ZF	Ceramic 50V 0.01	1	
		Coil		
L1001	VTQ0018		1	⚠
		Connectors		
P1103	VJP1144	6P	1	
P1105,1106	VJP1141	2P	2	
		Miscellaneous		
F1001	XBA2C10TR0	Fuse 1A	1	⚠
F1002-1004	XBA2C315TR0	Fuse 3.5A	3	⚠
	TJC6320	Fuse Holder	8	⚠

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP02155A	Servo P. C. Board Unit		
			Integrated Circuits		
IC2001		MN6168VIA		1	
IC2002		AN6357		1	
IC2003		AN6346N		1	
IC2004		μPC339C		1	
IC2005		BAL6309		1	
IC2006		μPD1511C		1	
IC2007		MN6283		1	
IC2008		AN6676		1	
IC2009		STA321A		1	
IC2010		AN6677		1	
IC2011		μPC358C		1	
			Transistors		
Q2001		2SD636		1	
Q2002,2003		2SB641		2	
Q2004		2SD636		1	
Q2005,2006		2SB641		2	
Q2007		2SD636		1	
Q2008		2SB641		1	
Q2009		2SD636		1	
Q2010,2011		2SB641		2	
Q2012-2014		2SD636		3	
Q2015		2SB641		1	
Q2016		2SD636		1	
Q2018		2SB641		1	
Q2019-2021		2SD636		3	
Q2022		2SB641		1	
Q2023,2024		2SD636		2	
Q2027		2SD636		1	
Q2028		2SD889		1	
Q2029		2SD636		1	
			Diodes		
D2001-2008		MA165		8	
D2009		RD18EB	Zener	1	
D2010-2018		MA165		9	
D2019		RD7.5EB	Zener	1	
D2020		RD6.2EB	Zener	1	
D2021		OA90		1	
D2022,2023		MA165		2	
D2025,2026		MA165		2	
D2028,2029		MA165		2	
D2030		10E1FA8		1	
D2031-2036		MA165		1	
			Resistors		
R2001-2003		ERDS2TJ104	100K	3	
R2004		ERDS2TJ683	68K	1	
R2005		ERDS2TJ473	47K	1	
R2006		ERDS2TJ103	10K	1	
R2008		ERDS2TJ563	56K	1	
R2009,2010		ERDS2TJ154	150K	2	
R2011		ERDS2TJ333	33K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2012		ERDS2TJ124	120K	1	
R2013		ERDS2TJ154	150K	1	
R2014		ERDS2TJ332	3.3K	1	
R2015		ERDS2TJ104	100K	1	
R2016		ERDS2TJ223	22K	1	
R2017		ERDS2TJ823	82K	1	
R2018,2019		ERDS2TJ473	47K	2	
R2020		ERDS2TJ104	100K	1	
R2021		ERDS2TJ223	22K	1	
R2022		ERDS2TJ220	22	1	
R2023		ERDS2TJ104	100K	1	
R2024		EROS2TKG8201	Metal 8.2K	1	
R2025		EROS2TKG1102	Metal 11K	1	
R2026		ERDS2TJ562	5.6K	1	
R2027		ERDS2TJ224	220K	1	
R2028		ERDS2TJ333	33K	1	
R2029		ERDS2TJ224	220K	1	
R2030		ERDS2TJ333	33K	1	
R2031		ERDS2TJ683	68K	1	
R2032		ERDS2TJ103	10K	1	
R2033		ERDS2TJ103	10K	1	
R2034		ERDS2TJ104	100K	1	
R2035		ERDS2TJ222	2.2K	1	
R2036		ERDS2TJ472	4.7K	1	
R2037		ERDS2TJ393	39K	1	
R2038		ERDS2TJ104	100K	1	
R2039		EROS2TKG6802	Metal 68K	1	
R2040		ERDS2TJ103	10K	1	
R2041		EROS2TKG2702	Metal 27K	1	
R2042		ERDS2TJ102	1K	1	
R2043		EVN50AA00B15	Variable 100K	1	
R2044		ERDS2TJ682	6.8K	1	
R2045		EVNK6AA00B54	Variable 50K	1	
R2046		ERDS2TJ682	6.8K	1	
R2047		EVNK6AA00B54	Variable 50K	1	
R2048		ERDS2TJ221	220	1	
R2049		ERDS2TJ222	2.2K	1	
R2050		ERDS2TJ124	120K	1	
R2051		ERDS2TJ222	2.2K	1	
R2052		ERDS2TJ333	33K	1	
R2053		ERDS2TJ103	10K	1	
R2054		EVN38CA00B53	Variable 5K	1	
R2055-2057		ERDS2TJ103	10K	3	
R2058		ERDS2TJ223	22K	1	
R2059		ERDS2TJ105	1M	1	
R2060		ERDS2TJ223	22K	1	
R2061		ERDS2TJ103	10K	1	
R2062		ERDS2TJ223	22K	1	
R2063		ERDS2TJ561	560	1	
R2064		ERDS2TJ391	390	1	
R2065		ERDS2TJ391	390	1	
R2066		ERDS2TJ223	22K	1	
R2067,2068		ERDS2TJ471	470	2	
R2069,2070		ERDS2TJ223	22K	2	
R2071		ERDS2TJ105	1M	1	
R2072,2073		ERDS2TJ103	10K	2	
R2074		EVNK6AA00B15	Variable 100K	1	
R2075		ERDS2TJ473	47K	1	
R2076		EVN59AA00B15	Variable 100K	1	
R2077		ERDS2TJ102	1K	1	
R2078		EVN59AA00B15	Variable 100K	1	
R2079		ERDS2TJ102	1K	1	
R2080		ERDS2TJ103	10K	1	
R2081		ERDS2TJ392	3.9K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2082		ERDS2TJ103	10K	1	
R2083		ERDS2TJ222	2.2K	1	
R2084		ERDS2TJ563	56K	1	
R2085		ERDS2TJ223	22K	1	
R2086		ERDS2TJ823	82K	1	
R2087		ERDS2TJ183	18K	1	
R2088		ERDS2TJ473	47K	1	
R2089		ERDS2TJ824	820K	1	
R2090		ERDS2TJ474	470K	1	
R2091		ERDS2TJ822	8.2K	1	
R2092		ERDS2TJ223	22K	1	
R2093		ERDS2TJ104	100K	1	
R2094		ERX12ANJR51P	Metal 1/2W 0.51	1	
R2095		ERDS2TJ222	2.2K	1	
R2096		ERDS2TJ221	220	1	
R2097,2098		ERDS2TJ223	22K	2	
R2099		ERDS2TJ183	18K	1	
R2100-2102		ERD2FCG330P	33	3	⚠
R2103		ERDS2TJ822	8.2K	1	
R2104		ERDS2TJ103	10K	1	
R2105		ERDS2TJ102	1K	1	
R2106		ERDS2TJ332	3.3K	1	
R2107-2110		ERDS2TJ104	100K	4	
R2111		ERQ1CJ6R8	Metal 1W 6.8	1	
R2112,2113		ERDS2TJ332	3.3K	2	
R2114		ERDS2TJ823	82K	1	
R2115		ERX12ANJR68	Metal 1/2W 0.68	1	
R2116-2118		ERD25TJ220	22	3	
R2119		ERDS2TJ153	15K	1	
R2120		ERDS2TJ123	12K	1	
R2121		ERDS2TJ102	1K	1	
R2122		EVN50AA00B15	Variable 100K	1	
R2123		ERDS2TJ221	220	1	
R2124		ERDS2TJ563	56K	1	
R2125		ERDS2TJ105	1M	1	
R2126		ERDS2TJ221	220	1	
R2127		ERDS2TJ102	1K	1	
R2128		ERDS2TJ104	100K	1	
R2129		ERDS2TJ332	3.3K	1	
R2130		ERDS2TJ823	82K	1	
R2131		ERDS2TJ272	2.7K	1	
R2132		ERDS2TJ103	10K	1	
R2133		ERDS2TJ822	8.2K	1	
R2134		ERDS2TJ274	270K	1	
R2135		ERDS2TJ104	100K	1	
R2136		ERDS2TJ822	8.2K	1	
R2137		ERDS2TJ101	100	1	
R2138		ERDS2TJ563	56K	1	
R2139		EVNK6AA00B15	Variable 100K	1	
R2140		ERDS2TJ154	150K	1	
R2141		ERDS2TJ391	390	1	
R2142		ERDS2TJ101	100	1	
R2143		ERDS2TJ473	47K	1	
R2145		ERDS2TJ104T	100K	1	
R2146		ERDS2TJ223T	22K	1	
R2147-2150		ERDS2TJ104T	100K	4	
R2151		ERDS2TJ561	560	1	
			Capacitors		
C2001		ECQM1H472KZ	Mylar 50V 4700P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C2002		ECEA1HS010	Electrolytic 50V 1	1	
C2003		ECEA0JS470	Electrolytic 6.3V 47	1	
C2004		ECQM1H563KV	Mylar 50V 0.056	1	
C2005		ECQM1H102KZ	Mylar 50V 1000P	1	
C2006		ECEA0JS470	Electrolytic 6.3V 47	1	
C2007		ECQM1H562KZ	Mylar 50V 5600P	1	
C2008		ECQV05104JB	Mylar 50V 0.1	1	
C2009		ECQM1H562KZ	Mylar 50V 5600P	1	
C2010,2011		ECEA0JS470	Electrolytic 6.3V 47	2	
C2012		ECEA1HN2R2S	Electrolytic 50V 2.2	1	
C2013		ECQM1H223KZ	Mylar 50V 0.022	1	
C2014		ECQM1H823KV	Mylar 50V 0.082	1	
C2015		ECEA1EN330S	Electrolytic 25V 33	1	
C2016		ECQM1H123KZ	Mylar 50V 0.012	1	
C2017		ECQV05334JZ	Mylar 50V 0.33	1	
C2018,2019		ECQM1H683KV	Mylar 50V 0.068	2	
C2020		ECQV05474JZW		1	
C2021		ECEA1DS100	Electrolytic 16V 10	1	
C2022		ECKF1H182KB	Ceramic 50V 1800P	1	
C2023		ECEA1HS010	Electrolytic 50V 1	1	
C2024		ECEA1CS100	Electrolytic 16V 10	1	
C2025		ECEA0JS470	Electrolytic 6.3V 47	1	
C2026		ECQM1H273KZ	Mylar 50V 0.027	1	
C2028		ECEA0JS101	Electrolytic 6.3V 100	1	
C2029-2031		ECQM1H682KZ	Mylar 50V 6800P	3	
C2032		ECEA1CS220	Electrolytic 16V 22	1	
C2033		ECEA1AS470	Electrolytic 10V 47	1	
C2034,2035		ECEA50ZR68	Electrolytic 50V 0.68	2	
C2036		ECEA1HS010	Electrolytic 50V 1	1	
C2037		ECQV05274JZ	Mylar 50V 0.27	1	
C2038		ECQM1H152KZ	Mylar 50V 1500P	1	
C2039,2040		ECCF1H330K5	Ceramic 50V 33P	2	
C2041		ECCF1H270K5	Ceramic 50V 27P	1	
C2042		ECCF1H050C5	Ceramic 50V 5P	1	
C2043		ECV1ZW20X53T	Trimmer 500V 20P	1	
C2044		ECEA0JS470	Electrolytic 6.3V 47	1	
C2045		ECQV05104JB	Mylar 50V 0.1	1	
C2046		ECQM1H393KS	Mylar 50V 0.039	1	
C2047-2049		ECEA50ZR33	Electrolytic 50V 0.33	3	
C2050		ECQM1H822KZ	Mylar 50V 8200P	1	
C2051		ECQM1H103KZ	Mylar 50V 0.01	1	
C2052		ECEA1ES101	Electrolytic 25V 100	1	
C2053		ECQV05334JZ	Mylar 50V 0.33	1	
C2054		ECEA1HS101	Electrolytic 50V 100	1	
C2055		ECEA1HS470	Electrolytic 50V 47	1	
C2056		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C2057		ECEA1CS100	Electrolytic 16V 10	1	
C2058		ECQM1H822KZ	Mylar 50V 8200P	1	
C2059-2061		ECEA50ZR22	Electrolytic 50V 0.22	3	
C2062		ECSF35E3R3E	Tantalum 35V 3.3	1	
C2063		ECQM1H333KS	Mylar 50V 0.033	1	
C2064		ECQM1H103KZ	Mylar 50V 0.01	1	
C2065-2067		ECEA1HN010S	Electrolytic 50V 1	3	
C2068-2070		ECEA1HS2R2	Electrolytic 50V 2.2	3	
C2071		ECEA1CS100	Electrolytic 16V 10	1	
C2072		ECCF1H560K5	Ceramic 50V 56P	1	
C2073		ECQM1H102KZ	Mylar 50V 1000P	1	
C2074		ECQM1H103KZ	Mylar 50V 0.01	1	
C2075		ECQV05104JB	Mylar 50V 0.1	1	
C2076,2077		ECEA1CS100	Electrolytic 16V 10	2	
C2083		ECEA0JS470	Electrolytic 6.3V 47	1	
C2084		ECQV05334JZ	Mylar 50V 0.33	1	
C2085		ECQM1H102KZ	Mylar 50V 1000P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Coils		
L2001	VLQEL06F101K	100µH	1	
L2002	VLQ80F102K	1mH	1	
	VLQEL06F561K	560µH	1	
		Diode Arrays		
D009	D009		1	
D010	D010		1	
		Crystals		
X2001	VSX0091		1	
X2002	VSX0082		1	
		Connectors		
P001	VJP1239	12P	1	
P2001	VJS1316	8P	1	
P2002	VJP1232	5P	1	
P2003,2004	VJS1314	10P	2	
P2006	VJP1229	2P	1	
P2008	VJS1314	10P	1	
P2010,2011	VJP1235	8P	2	
		Miscellaneous		
	VSC0845	Heat Sink	1	
	VSC0856	Heat Sink	1	
	VEP03150A/B	Luminance, Chrominance		
		Audio P. C. Board Unit		
		Integrated Circuits		
IC3001	VEFY003	FIC Y-3	1	
IC3002	AN6326		1	
IC3003	BA7004		1	
IC4001	TA7355P		1	
IC4002	AN6209		1	
IC4003	NE648N		1	
IC8001	VEFC003	FIC C-3	1	
IC8002	VEFC004	FIC C-4	1	
IC8003	BA7007		1	NV-777EG
		Transistors		
Q3001,3002	2SD636		2	
Q3003	2SB643		1	
Q3006,3007	2SD636		2	
Q3008	2SC2377		1	
Q3009	2SC2206		1	
Q3010	2SB641		1	
Q3011-3015	2SC2377		5	
Q3016	2SC2206		1	
Q3017-3020	2SD636		4	
Q3021	2SD638		1	
Q3022	2SC2206		1	
Q3023	2SC2377		1	
Q3024	2SD636		1	
Q3029	2SD636		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
Q3030	2SC2206		1	
Q3031	2SB641		1	
Q3032	2SD636		1	
Q3037	2SC2206		1	
Q4001	2SC1317		1	
Q4002,4003	2SD636		2	
Q4004	2SB641		1	(R, S, T)
Q4005	2SD636		1	
Q4006	2SB641		1	
Q4007	2SD655		1	or 2SD1330
Q4008,4009	2SD639		2	(R) or 2SD973(R)
Q8001	2SC2206		1	NV-777EG
Q8002	2SD636		1	
Q8003,8004	2SC2206		2	
Q8005	2SC2206		1	NV-777EG
Q8006	2SB643		1	
Q8007	2SD636		1	
		Diodes		
D3001,3002	MA165		2	
D3005	RD3.0EB	Zener	1	
D3006-3012	MA165		7	
D3016	MA165		1	
D3017,3018	ISS16		2	
D3020-3023	MA165		4	
D4001	MA165		1	
D4003-4013	MA165		11	
D8002	MA165		1	NV-777EG
		Resistors		
R3001,3002	ERDS2TJ563	56K	2	
R3003,3004	ERDS2TJ333	33K	2	
R3005	ERDS2TJ562	5.6K	1	
R3006	ERDS2TJ103	10K	1	
R3007	ERDS2TJ822	8.2K	1	
R3008	ERDS2TJ103	10K	1	
R3010	ERDS2TJ104	100K	1	
R3011,3012	ERDS2TJ750	75	2	
R3013	ERDS2TJ102	1K	1	
R3014	ERDS2TJ681	680	1	
R3015	ERDS2TJ271	270	1	
R3016	ERDS2TJ102	1K	1	
R2017,2018	ERDS2TJ104	100K	2	
R3019	ERDS2TJ222	2.2K	1	
R3020	ERDS2TJ100	10	1	
R3021	ERDS2TJ681	680	1	
R3022	EVNK6AA00B23	Variable 2K	1	
R3023	ERDS2TJ561	560	1	
R3024	ERDS2TJ820	82	1	
R3025	ERDS2TJ471	470	1	
R3026	ERDS2TJ563	56K	1	
R3027	ERDS2TJ473	47K	1	
R3028	ERDS2TJ562	5.6K	1	
R3029	ERDS2TJ122	1.2K	1	
R3030	ERDS2TJ152	1.5K	1	
R3031	ERDS2TJ821	820	1	
R3032	ERDS2TJ181	180	1	
R3033	ERDS2TJ560	56	1	
R3034,3035	ERDS2TJ682	6.8K	2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R3036,3037		ERDS2TJ560	56	2	
R3038		ERDS2TJ152	1.5K	1	
R3039		ERDS2TJ100	10	1	
R3040		ERDS2TJ821	820	1	
R3041		ERDS2TJ223	22K	1	
R3042		ERDS2TJ821	820	1	
R3043		ERDS2TJ100	10	1	
R3044-3046		EVNK6AA00B13	Variable 1K	3	
R3047-3049		ERDS2TJ473	47K	3	
R3050		ERDS2TJ102	1K	1	
R3051,3052		ERDS2TJ152	1.5K	2	
R3053		ERDS2TJ681	680	1	
R3054		ERDS2TJ561	560	1	
R3055		ERDS2TJ102	1K	1	
R3056		ERDS2TJ560	56	1	
R3057		ERDS2TJ152	1.5K	1	
R3058		ERDS2TJ102	1K	1	
R3059		ERDS2TJ103	10K	1	
R3060		ERDS2TJ102	1K	1	
R3061		ERDS2TJ271	270	1	
R3062		ERDS2TJ102	1K	1	
R3063		ERDS2TJ821	820	1	
R3064		ERDS2TJ223	22K	1	
R3065,2066		ERDS2TJ473	47K	2	
R3067		ERDS2TJ103	10K	1	
R3068,3069		EVJ1EAF20B15	Variable 100K	2	
R3070,3071		ERDS2TJ561	560	2	
R3072		ERDS2TJ392	3.9K	1	
R3073		ERDS2TJ152	1.5K	1	
R3074		ERDS2TJ102	1K	1	
R3075		ERDS2TJ331T	330	1	
R3076		ERDS2TJ102T	1K	1	
R3077		ERDS2TJ821T	820	1	
R3078		ERDS2TJ222T	2.2K	1	
R3079		ERDS2TJ103T	10K	1	
R3080		ERDS2TJ683T	68K	1	
R3082,3083		ERDS2TJ563T	56K	2	
R3091,3092		ERDS2TJ104T	100K	2	
R3094		EVNK6AA00B13	Variable 1K	1	
R3095		ERDS2TJ562T	5.6K	1	
R3096		ERDS2TJ183T	18K	1	
R3097		ERDS]TJ181T	180	1	
R3098		ERDS2TJ121T	120	1	
R3099		ERDS2TJ561T	560	1	
R3100		ERDS2TJ101T	100	1	
R3101		ERDS2TJ470T	47	1	
R3102		ERDS2TJ391T	390	1	
R3103		ERDS2TJ272T	2.7K	1	
R3104		ERD50TJ221S	220	1	
R3105,3106		ERDS2TJ102	1K	2	
R3107		ERDS2TJ750	75	1	
R3108		ERDS2TJ682	6.8K	1	
R3109		ERDS2TJ152	1.5K	1	
R3110		ERDS2TJ562	5.6K	1	
R3129		ERDS2TJ272	2.7K	1	
R3130		ERDS2TJ561	560	1	
R3131		EVJ0EAF20B23	Variable 2K	1	
R3132		ERDS2TJ473	47K	1	
R3133,3134		ERDS2TJ223	22K	2	
R3135		ERDS2TJ563	56K	1	
R3136		ERDS2TJ822	8.2K	1	
R3137		ERDS2TJ223	22K	1	
R3138		ERDS2TJ473	47K	1	
R3140		ERDS2TJ153	15K	1	
R4001		ERDS2TJ472	4.7K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R4002		ERDS2TJ473	47K	1	
R4003		ERDS2TJ123	12K	1	
R4004		ERDS2TJ331	330	1	
R4005		ERDS2TJ472	4.7K	1	
R4006,4007		ERDS2TJ333	33K	2	
R4008		ERDS2TJ103	10K	1	
R4009		ERDS2TJ472	4.7K	1	
R4010		ERDS2TJ101	100	1	
R4011		ERDS]TJ682	6.8K	1	
R4012		ERDS2TJ223	22K	1	
R4013		ERDS2TJ333	33K	1	
R4014		ERDS2TJ101	100	1	
R4015		ERDS2TJ473	47K	1	
R4016		ERDS2TJ152	1.5K	1	
R4017		ERDS2TJ222	2.2K	1	
R4018		ERDS2TJ103	10K	1	
R4019		ERDS2TJ332	3.3K	1	
R4020		EVNK6AA00B24	Variable 20K	1	
R4021		ERDS2TJ472	4.7K	1	
R4022		ERDS2TJ104	100K	1	
R4023,4024		ERDS2TJ153	15K	2	
R4025		EVNK6AA00B24	Variable 20K	1	
R4026,4027		ERDS2TJ102	1K	2	
R4028		ERDS2TJ184	180K	1	
R4029		ERDS2TJ274	270K	1	
R4030		ERDS2TJ823	82K	1	
R4031		ERDS2TJ473	47K	1	
R4032		ERDS2TJ332	3.3K	1	
R4033		ERDS2TJ181	180	1	
R4034		ERDS2TJ561	560	1	
R4035		ERDS2TJ151	150	1	
R4036		ERDS2TJ473	47K	1	
R4037		ERDS2TJ274	270K	1	
R4038		ERDS2TJ103	10K	1	
R4039		ERDS2TJ104	100K	1	
R4040		ERDS2TJ473	47K	1	
R4041		ERDS2TJ181	180	1	
R4042,4043		ERDS2TJ223	22K	2	
R4044		ERDS2TJ103	10K	1	
R4045		ERDS2TJ332	3.3K	1	
R4046		ERDS2TJ102	1K	1	
R4047		ERDS2TJ223	22K	1	
R4048		ERDS2TJ273	27K	1	
R4049		ERDS2TJ473	47K	1	
R4050		ERDS2TJ153	15K	1	
R4051		ERDS2TJ562	5.6K	1	
R4052		ERDS2TJ683	68K	1	
R4053		ERDS2TJ183	18K	1	
R4054		ERDS2TJ333	33K	1	
R4055		ERDS2TJ4R7	4.7	1	
R4056		EVNK6AA00B15	Variable 100K	1	
R4057		ERDS2TJ153	15K	1	
R4058		ERDS2TJ4R7	4.7	1	
R4059		ERDS2TJ223	22K	1	
R4060		ERDS2TJ681	680	1	
R4061		ERDS2TJ105	1M	1	
R4062		ERDS2TJ562	5.6K	1	
R4064		ERDS2TJ153	15K	1	
R4065		ERDS2TJ103	10K	1	
R8001-8003		ERDS2TJ102	1K	3	
R8004		ERDS2TJ681	680	1	NV-777EG
R8005		ERDS2TJ183	18K	1	NV-777EG
R8006		ERDS2TJ103	10K	1	NV-777EG
R8007		ERDS2TJ471	470	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R8008-8011		ERDS2TJ102	1K	4	
R8012		ERDS2TJ562	5.6K	1	
R8013		ERDS2TJ471	470	1	
R8014,8015		ERDS2TJ102	1K	2	
R8016		ERDS2TJ124	120K	1	
R8017		ERDS2TJ223	22K	1	
R8018		ERDS2TJ271	270	1	
R8019		ERDS2TJ222	2.2K	1	
R8020		ERDS2TJ123	12K	1	
R8021		ERDS2TJ123	12K	1	
R8022		ERDS2TJ102	1K	1	
R8023		ERDS2TJ391	390	1	
R8024		ERDS2TJ562	5.6K	1	
R8025		ERDS2TJ473	47K	1	
R8026		ERDS2TJ273	27K	1	
R8027		ERDS2TJ222	2.2K	1	
R8028		ERDS2TJ273	27K	1	NV-777EG
R8029		ERDS2TJ473	47K	1	NV-777EG
R8030		ERDS2TJ472	4.7K	1	NV-777EG
R8031		ERDS2TJ102	1K	1	NV-777EG
R8032		ERDS2TJ222	2.2K	1	NV-777EG
R8033		EVNK6AA0OB23	Variable 2K	1	
R8034		ERDS2TJ471	470	1	
R8035		ERDS2TJ152	1.5K	1	
R8036		ERDS2TJ271	270	1	
R8037		EVNK6AA0OB52	Variable 500	1	
R8038		ERDS2TJ102	1K	1	
R8039		ERDS2TJ563	56K	1	
R8040		ERDS2TJ561T	560	1	
R8041		ERDS2TJ473T	47K	1	NV-777EG
R8042		ERDS2TJ560T	56	1	NV-777EG
R8043		ERDS]TJ222T	2.2K	1	VN-777EG
R8044		ERDS2TJ154T	150K	1	NV-777EG
R8045		ERDS2TJ564T	560K	1	NV-777EG
R8046		ERDS2TJ271T	270	1	NV-777EG
R8047		ERDS2TJ471T	470	1	
R8048,8049		ERDS2TJ563T	56K	2	
			Capacitors		
C3003		ECEA1HNR47S	Electrolytic 50V 0.47	1	
C3004		ECEA1HS010	Electrolytic 50V 1	1	
C3005		ECEA0JS470	Electrolytic 6.3V 47	1	
C3006		ECCF1H390KD	Ceramic 50V 39P	1	
C3007		ECEA0JS470	Electrolytic 6.3V 47	1	
C3008		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C3009		VCY25333KX	Semiconductor 25V 0.033	1	
C3010		ECEA0JS101	Electrolytic 6.3V 100	1	
C3011,3012		ECEA1HS010	Electrolytic 50V 1	2	
C3013		ECKF1H221KB	Ceramic 50V 220p	1	
C3014		ECEA1CS100	Electrolytic 16V 10	1	
C3015		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3016		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C3017		ECKF1H102KB	Ceramic 50V 1000P	1	
C3018		ECEA0JS470	Electrolytic 6.3V 47	1	
C3019		ECCF1H560KD	Ceramic 50V 56	1	
C3020		ECCF1H181KC	Ceramic 50V 180P	1	
C3021		ECEA1CS470	Electrolytic 16V 47	1	
C3022		ECEA0JS470	Electrolytic 6.3V 47	1	
C3023		ECEA1CS100	Electrolytic 16V 10	1	
C3024		ECKF1H681KB	Ceramic 50V 680P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C3025,3026		ECKF1H103ZF5	Ceramic 50V 0.01	2	
C3027		ECEA1HS010	Electrolytic 50V 1	1	
C3028		ECEA1CS100	Electrolytic 16V 10	1	
C3029,3030		ECV1ZW40X64	Trimmer 500V 40P	2	
C3031,3032		VCY25104KX	Semiconductor 25V 0.1	2	
C3033		ECV1ZW40X64	Trimmer 500V 40P	1	
C3034		ECEA1CS100	Electrolytic 16V 10	1	
C3035		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3036		ECEA0JS470	Electrolytic 6.3V 47	1	
C3037		ECQV05104JB	Mylar 50V 0.1	1	
C3038		ECEA0JS470	Electrolytic 6.3V 47	1	
C3039		VCY25104KX	Semiconductor 25V 0.1	1	
C3040		ECEA1HS010	Electrolytic 50V 1	1	
C3041		ECEA1CS100	Electrolytic 16V 10	1	
C3042		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3043		ECCF1H151KC	Ceramic 50V 150	1	
C3044		ECCF1H271KC	Ceramic 50V 270P	1	
C3045		VCKD1H431JS	Ceramic 50 430P	1	
C3046		ECCF1H271KC	Ceramic 50V 270P	1	
C3047		ECCF1H561K5	Ceramic 50V 560P	1	
C3048		ECCF1H560KC	Ceramic 50V 56P	1	
C3049		ECCF1H220KC	Ceramic 50V 22P	1	
C3050		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3051		ECEA1CS330	Electrolytic 16V 33	1	
C3052		ECKF1H103ZF5	Ceramic 50V 0.01	1	
C3053		ECCF1H820KC	Ceramic 50V 82P	1	
C3055		ECCF1H120KC	Ceramic 50V 12P	1	
C3056-3059		ECKF1H103ZF	Ceramic 50V 0.01	4	
C3060		ECCF1H221KC	Ceramic 50V 220P	1	
C3061		ECEA1HNR478	Electrolytic 50V 0.47	1	
C3062		ECCF1H101KC	Ceramic 50V 100P	1	
C3063		ECEA1CS100	Electrolytic 16V 10	1	
C3064		ECEA0JS470	Electrolytic 6.3V 47	1	
C3065		ECCF1H820KC	Ceramic 50V 82P	1	
C3066		ECQM1H102KZ	Mylar 50V 1000P	1	
C3067		VCKD1H331JSA	Ceramic 50V 330P	1	
C3068		ECKF1H561KB	Ceramic 50V 560P	1	
C3069		ECKF1H102KB	Ceramic 50V 1000P	1	
C3070		ECKF1H821KB	Ceramic 50V 820P	1	
C3071		ECEA0JS471	Electrolytic 6.3V 470	1	
C3072		ECEA1CS101	Electrolytic 16V 100	1	
C3073		ECEA1CS100	Electrolytic 16V 10	1	
C3079,3080		ECQM1H332KZ	Mylar 50V 3300P	2	
C3081		ECEA1CS100	Electrolytic 16V 10	1	
C3082		ECEA1CS100	Electrolytic 16V 10	1	
C3083		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3084		ECEA1CS100	Electrolytic 16V 10	1	
C3085		VCY25104KX	Semiconductor 25V 0.1	1	
C3087		VCY25104KX	Semiconductor 25V 0.1	1	
C3088,3089		ECKF1H103ZF	Ceramic 50V 0.01	2	
C3090		ECKF1H222KB	Ceramic 50V 2200P	1	
C4001		ECKF1H102KB	Ceramic 50V 1000P	1	
C4002		ECEA1HS3R3	Electrolytic 50V 3.3	1	
C4004		ECEA1CS330	Electrolytic 16V 33	1	
C4005		ECEA1HS3R3	Electrolytic 50V 3.3	1	
C4006		ECEA1CS100	Electrolytic 16V 10	1	
C4007		ECKF1H102KB	Ceramic 50V 1000P	1	
C4008		ECEA1AS330	Electrolytic 10V 33	1	
C4009		ECEA1SD330	Electrolytic 10V 33	1	
C4010		ECQV05183JZ	Mylar 50V 0.018	1	
C4011		ECQV05334JZ	Mylar 50V 0.33	1	
C4012		ECEA1AS221	Electrolytic 10V 220	1	
C4013		ECKF1H102KB	Ceramic 50V 1000P	1	
C4014		ECEA1CS100	Electrolytic 16V 10	1	
C4015		ECKF1H102KB5	Ceramic 50V 1000P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C4016		ECQV05683JZ	Mylar 50V 0.068	1	
C4017		ECEA1AS470	Electrolytic 10V 47	1	
C4018-4021		ECEA1CS100	Electrolytic 16V 10	4	
C4022		ECEA0JS101	Electrolytic 6.3V 100	1	
C4023		ECKF1H102KB	Ceramic 50V 1000P	1	
C4024		ECEA1AS221	Electrolytic 10V 220	1	
C4025		ECEA1CS221	Electrolytic 16V 220	1	
C4026		ECSF35ER33E	Tantalum 35V 0.33	1	
C4027		ECSF35ER1E	Tantalum 35V 0.1	1	
C4028		ECEA1CS100	Electrolytic 16V 10	1	
C4029		ECQM1H473JV	Mylar 50V 0.047	1	
C4030		ECQM1H472JZ	Mylar 50V 4700P	1	
C4031		ECEA1CS100	Electrolytic 16V 10	1	
C4032		ECQM1H273JZ	Mylar 50V 0.027	1	
C4033		ECQM1H562JZ	Mylar 50V 5600P	1	
C4034		ECEA1HN010S	Electrolytic 50V 1	1	
C4035		ECKF1H102KB	Ceramic 50V 1000P	1	
C4036		ECQM1H822JZ	Mylar 50V 8200P	1	
C4037		ECKF1H102KB	Ceramic 50V 1000P	1	
C4038		ECEA1CS470	Electrolytic 16V 47	1	
C4039		ECEA1HS3R3	Electrolytic 50V 3.3	1	
C4040		ECEA1CS221	Electrolytic 16V 220	1	
C4041		ECEA1CS101	Electrolytic 16V 100	1	
C4042		VCY25333KX	Semiconductor 25V 0.033	1	
C4043		ECKDF1H103ZF	Ceramic 50V 0.01	1	
C4044		ECEA10S100	Electrolytic 16V 10	1	
C4045		ECCF2H121K2	Ceramic 500V 120P	1	
C4046		ECQF6152KZH	Mylar 630V 1500P	1	
C4047		ECEA1CS100	Electrolytic 16V 10	1	
C4048		VCY25333KX	Semiconductor 25V 0.033	1	
C4049		ECKF1H103ZF	Ceramic 50V 0.01	1	
C4050		ECQM2223KZ	Mylar 200V 0.022	1	
C8001		ECEA0JS470	Electrolytic 6.3V 47	1	
C8002		ECKF1H102KB	Ceramic 50V 1000P	1	NV-777EG
C8003		ECQV05154JZ	Mylar 50V 0.15	1	
C8004		ECQV05104JB	Mylar 50V 0.1	1	NV-777EG
C8005		ECCF1H390KC	Ceramic 50V 39P	1	
C8006		ECEA1AS330	Electrolytic 10V 33	1	
C8007		ECEA10S100	Electrolytic 16V 10	1	
C8008		ECEA1AS330	Electrolytic 10V 33	1	
C8009		ECCF1H030CC	Ceramic 50V 3P	1	
C8010		ECV1ZW30X64	Trimmer 500V 30P	1	
C8011		ECCF1H010CC	Ceramic 50V 1P	1	
C8012		ECEA1CS100	Electrolytic 16V 10	1	
C8013		ECKF1H122KB	Ceramic 50V 1200P	1	
C8014		ECEA1HS010	Electrolytic 50V 1	1	
C8015		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8016		ECEA1CS100	Electrolytic 16V 10	1	
C8017		ECCF1H121KC	Ceramic 50V 120P	1	
C8018		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8019		ECCF1H101KC	Ceramic 50V 100P	1	
C8020		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8021		ECKR1H103ZF5	Ceramic 50V 0.01	1	NV-777EG
C8022		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C8023,8024		ECEA1CS100	Electrolytic 16V 10	2	
C8025		ECKF1H102KB	Ceramic 50V 1000P	1	
C8026,8027		ECEA1AS330	Electrolytic 10V 33	2	
C8028		ECEA1HS010	Electrolytic 50V 1	1	
C8029		ECEA50ZR1	Electrolytic 50V 0.1	1	
C8030		ECKF1H103ZF	Ceramic 50V 0.01	1	NV-777EG
C8031		ECEA1AS330	Electrolytic 10V 33	1	NV-777EG
C8032		ECEA1CS100	Electrolytic 16V 10	1	NV-777EG
C8033		ECKF1H103ZF	Ceramic 50V 0.01	1	NV-777EG
C8034		ECCF1H330KC	Ceramic 50V 33P	1	NV-777EG

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C8035		ECQM1H563JV	Mylar 50V 0.056	1	NV-777EG
C8036		ECEA1CS101	Electrolytic 16V 100	1	NV-777EG
C8037		ECCF1H390KC	Ceramic 50V 39P	1	
C8038		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8039		ECCF1H151KC	Ceramic 50V 150P	1	
			Coils		
L3001-3003		VLQEL06R101K	100μH	3	
L3004		VLQEL06R820K	82μH	1	
L3005		VLQEL06R101K	100μH	1	
L3006		VLQEL06R100K	10μH	1	
L3007,3008		VLQEL06R101K	100μH	2	
L3009		VLQ80W102K	1mH	1	
L3010		VLQEL06R180K	18μH	1	
L3011		VLQEL06R2R7K	2.7μH	1	
L3012		VLQEL06R151K	150μH	1	
L3013		VLQEL06R471K	470μH	1	
L3014		VLQEL06R220K	22μH	1	
L3015		VLQEL06R100K	10μH	1	
L3016		VLQEL06R180K	18μH	1	
L3017,3018		VLQEL06R101K	100μH	2	
L3019,3020		VLQEL06R8R2K	8.2μH	2	
L3021,3022		VLQEL06R220K	22μH	2	
L3023		VLQEL06R101K	100μH	1	
L3025		VLQEL06R101K	100μH	1	
L3026		VLQEL06R180K	18μH	1	
L4001		VTQ0014		1	
L4002,4003		VLQEL06F471K	470μH	2	
L8001		VLQEL06F101K	100μH	1	
L8002		VLQ80W681K	680μH	1	
L8003		VLQEL06F390K	39μH	1	NV-777EG
L8004		VLQEL06R390K	39μH	1	
L8005		VLQEL06F101K	100μH	1	
L8006		VLQEL06F560K	56μH	1	
L8007		VLQEL06F680K	68μH	1	
L8008		VLQEL06F470K	47μH	1	
L8009		VLQ02F682K	6.8mH	1	
L8010		VLQEL06F101K	100μH	1	
L8011		VLQEL06R101K	100μH	1	NV-777EG
L8012		ELM7Q207A	Variable 7μH	1	NV-777EG
L8013		VLQEL06F330K	33μH	1	
L8014		VLQEL06F101K	100μH	1	
L8015		VLQEL06F680K	68μH	1	
			Filters		
FL3001		VLF0196		1	
FL3002		VLF0212		1	
FL3003		VLF0188		1	
FL4001		VLF0116		1	
FL8001		VLF0199		1	
FL8002		VLF0198		1	
FL8003		EFCS5R06MS4V		1	
FL8004		VLF0143		1	NV-777EG

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Delay lines		
DL3001		EFDVN645A23B		1	
EL8001		EFDWT124A13A		1	
			Relay		
RY1		VSY2029		1	
			Transfomers		
T4001		VLT0166		1	
T4002		VLT0167		1	
			Crystal		
X3001		VSX0099		1	
			Switches		
S3001		VSS0052		1	
S3002		VSS0001		1	
			Connectors		
P002		VJP1145	8P		
P3002		VJP1232	5P		
P3004		VJP1143	5P		
P3005		VJS0316	8P		
P3006		VJS1314	10P		
P3007		VJP1142	3P		
P3009		VJP1232	5P		
P4001		VJP1229	2P		
P4002		VJP1232	5P		
			Miscellaneous		
		VGT0311	Tracking VR Knob (Slow)	1	
		VGT0306	Tracking VR Knob	2	
		VJH0242	Front Jack Panel	1	
		VJH0245	Rear Jack Panel	1	
		VSC0849	Shield Case (Video ,Main)	1	
		VSC0851	Shield Case (Video,Bottom)	1	
		VSC0847	Shield Case (Top)	2	
		VSC0864	Shield Case (Audio, Main)	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP06176A	Operation P.C. Board Unit		
			Diodes		
D6501-6509		LN81RCPH	LED	9	
D6510		LN31GCPUHL	LED	1	
D6511-6521		MA165		11	
			Resistors		
R6501-6508		ERDS2TJ561	560	8	
R6509		ERDS2TJ331	330	1	
R6510		ERDS2TJ104	100K	1	
R6511		EVATOPC20B15	Variable 100K	1	
R6516,6517		ERD2TJ103	10K	2	
R6518		ERD2TJ472	4.7K	1	
			Switches		
S6501-6512		EVQQSB05G		12	
S6513		ESD14184		1	
			Connectors		
P6501		VJP1237	10P	1	
P6502		VJP1235	8P	1	
P6503		VJP1232	5P	1	
P6504		VJP1229	2P	1	
P6505		VJP1230	3P	1	
			E. Counter & Tape Remain		
			Integrated Circuit		
IC6601		μPD7503G034		1	
			Capacitor		
C6601		ECEA1HK010	Electrolytic 50V 1	1	
			Combination Circuit		
CR6601		EXBF7L280JN		1	
			Switches		
S6601,6602		EVQQSB05G		2	
			Miscellaneous		
		VGQ0427	LCD Holder	1	
		VMG0294	LCD Spacer	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP06178A	Infrared Remote Control Receiver P.C. Board Unit		
			Integrated Circuit		
IC6550		μPC1373H		1	
			Diode		
D6550		PN313		1	
			Resistors		
R6550		ERDS2TJ154	150K	1	
R6551		ERDS2TJ120	12	1	
R6552		ERDS2TJ102	1K	1	
			Capacitors		
C6550		ECQV05183JZ	Mylar 50V 0.018	1	
C6551		APS472J100	Mylar 100V 4700	1	
C6552		ECEA1CS100	Electrolytic 16V 10	1	
C6553		ECEA1HSR47	Electrolytic 50V 0.47	1	
C6554		ECEA1CK470	Electrolytic 16V 47	1	
C6555		ECEA1CS100	Electrolytic 16V 10	1	
T6550		ELM7Q206A	Transformer	1	
T6550		ELM7Q206A		1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP06179A	Power Supply & System Control P.C. Board Unit		
			Integrated Circuits		
IC6001		MN1522VNA		1	
IC6002		BAL872		1	
IC6003		μPC358C		1	
IC6004,6005		BA6209		2	
IC6006		AN6914		1	
IC6007		STA431AX		1	
			Transistors		
Q6001		2SD636		1	(Q,R,S,T)
Q6004		2SD636		1	(Q,R,S,T)
Q6005		2SD1275		1	
Q6006-6012		2SD636		7	(Q,R,S,T)
Q6013		2SB641		1	(Q,R,S,T)
Q6014		2SD973		1	(Q,R,S)
Q6015-6017		2SD636		3	(Q,R,S,T)
Q6019		2SB941		1	(P,Q)
Q6020		2SB819		1	(P,Q,R)
Q6021		2SD636		1	(Q,R,S,T)
Q6022		2SB819		1	(P,Q,R)
Q6023,6024		2SD636		2	(Q,R,S,T)
Q6025		2SB641		1	(Q,R,S,T)
Q6026		2SD636		1	(Q,R,S,T)
Q6027,6028		2SB641		2	(Q,R,S,T)
Q6029		2SD636		1	(Q,R,S,T)
Q6030		2SB819		1	(P,Q,R)
Q6031-6033		2SA719		3	(Q,R,S)
Q6034-6036		2SB643		3	(Q,R)
Q6037,6038		2SD636		2	(Q,R,S,T)
Q6039		2SB643		1	(Q,R)
Q6040-6043		2SB641		4	(Q,R,S,T)
Q6044-6048		2SD636		5	(Q,R,S,T)
Q6051		2SB641		1	(Q,R,S,T)
			Diodes		
D1001-1008		10E1		8	⚠
D1009		10E1		1	
D1010-1012		MA165		3	
D6001-6018		MA165		18	
D6020,6021		MA165		2	
D6022		10E1		1	
D6023		EQA02-11C		1	
D6024		EQA02-13B		1	
D6025-6035		MA165		11	
D6036,6037		10E1		2	
D6038		MA165		1	
D6039		10E1		1	
D6040-6048		MA165		9	
D6049,6050		RD5.6JB	Zener	2	
D6052		RD13EB	Zener	1	
D6054-6058		MA165		5	
D6060		MA165		1	
D6062-6068		MA165		7	
D6070-6082		MA165		13	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Resistors		
R1001		ERDS2TJ222	2.2K	1	
R1002		ERDS2TJ562	5.6K	1	
R6001		ERDS2TJ154	150K	1	
R6002		ERDS2TJ104	100K	1	
R6004		ERDS2TJ103	10K	1	
R6005-6008		ERDS2TJ223	22K	4	
R6009		ERDS2TJ103	10K	1	
R6017		ERDS2TJ103	10K	1	
R6018		ERDS2TJ223	22K	1	
R6019,6020		ERDS2TJ103	10K	2	
R6021,6022		ERDS2TJ473	47K	2	
R6024-6026		ERDS2TJ103	10K	3	
R6027		ERDS2TJ473	47K	1	
R6028		ERDS2TJ562	5.6K	1	
R6029		ERDS2TJ473	47K	1	
R6030		ERDS2TJ123	12K	1	
R6031		ERDS2TJ103	10K	1	
R6032,6033		ERDS2TJ223	22K	2	
R6034		ERG12ANJ102	Metal Oxide 1/2W 1K	1	
R6035		ERDS2TJ223	22K	1	
R6037		ERDS2TJ103	10K	1	
R6038		ERDS2TJ152	1.5K	1	
R6039		ERDS2TJ102	1K	1	
R6040		ERDS2TJ682	6.8K	1	
R6041		ERDS2TJ103	10K	1	
R6042		ERDS2TJ124	120K	1	
R6043-6045		ERDS2TJ103	10K	3	
R6046,6047		ERDS2TJ473	47K	2	
R6048		ERDS2TJ223	22K	1	
R6049		ERDS2TJ102	1K	1	
R6050		ERDS2TJ183	18K	1	
R6051		ERDS2TJ101	100	1	
R6052		ERDS2TJ474	470K	1	
R6053		ERDS2TJ122	1.2K	1	
R6054		ERDS2TJ153	15K	1	
R6055,6056		ERDS2TJ103	10K	2	
R6057		ERDS2TJ332	3.3K	1	
R6058,6059		ERDS2TJ103	10K	2	
R6060		ERDS2TJ473	47K	1	
R6061,6062		ERDS2TJ223	22K	2	
R6063,6064		ERG1ANJ560	Metal Oxide 1W 56	2	
R6065		ERDS2TJ102	1K	1	
R6066		ERDS2TJ103	10K	1	
R6067		ERG12ANJ221	Metal Oxide 1/2W 220	1	
R6068		ERDS2TJ102	1K	1	
R6069		ERX1ANJ1R0	Metal 1W 1	1	
R6070		ERDS2TJ102	1K	1	
R6071		ERDS2TJ103	10K	1	
R6072		ERG12ANJ221	Metal Oxide 1/2W 220	1	
R6073		ERDS2TJ102	1K	1	
R6074-6076		ERDS2TJ473	47K	3	
R6077		ERDS2TJ103	10K	1	
R6080		ERG12ANJ471	Metal Oxide 1/2W 470	1	
R6081		ERDS2TJ103	10K	1	
R6083		ERDS2TJ103	10K	1	
R6084		ERG12ANJ471	Metal Oxide 1/2W 470	1	
R6085		ERX1ANJ3R3	Metal 1W 3.3	1	
R6086		ERX1ANJR82	Metal 1W 0.82	1	
R6087		ERDS2TJ154	150K	1	
R6088		ERDS2TJ153	15K	1	
R6089		ERDS2TJ473	47K	1	
R6090		EVN50AA00B53	Variable 5K	1	
R6091-6093		ERDS2TJ563	56K	3	
R6094,6095		ERDS2TJ103	10K	2	
R6096		ERG1ANJ101	Metal Oxide 1W 100	1	
R6097		ERDS2TJ103	10K	1	
R6098		ERDS2TJ102	1K	1	
R6099		ERDS2TJ103	10K	1	
R6100		ERDS2TJ562	5.6K	1	
R6101		ERDS2TJ333	33K	1	
R6102		ERDS2TJ102	1K	1	
R6103		ERDS2TJ104	100K	1	
R6104		ERDS2TJ102	1K	1	
R6105,6106		ERDS2TJ103	10K	2	
R6107		ERDS2TJ153	15K	1	
R6108		ERDS2TJ104	100K	1	
R6109		ERDS2TJ562	5.6K	1	
R6110		ERDS2TJ102	1K	1	
R6111		ERDS2TJ104	100K	1	
R6112		ERDS2TJ333	33K	1	
R6113		ERDS2TJ102	1K	1	
R6114		ERDS2TJ562	5.6K	1	
R6115		ERDS2TJ333	33K	1	
R6116-6120		ERDS2TJ473	47K	5	
R6121		ERDS2TJ103	10K	1	
R6122		ERDS2TJ273	27K	1	
R6123		ERDS2TJ152	1.5K	1	
R6124		ERDS2TJ473	47K	1	
R6125		ERDS2TJ103	10K	1	
R6126		ERDS2TJ473	47K	1	
R6127,6128		ERDS2TJ223	22K	2	
R6129,6130		ERDS2TJ473	47K	2	
R6131		ERDS2TJ272	2.7K	1	
R6132-6134		ERDS2TJ822	8.2K	3	
R6135		ERD25TJ121	120	1	
R6136		ERDS2TJ682	6.8K	1	
R6137		ERDS2TJ272	2.7K	1	
R6138		ERDS2TJ822	8.2K	1	
R6139		ERDS2TJ682	6.8K	1	
R6140		ERDS2TJ223	22K	1	
R6141		ERDS2TJ822	8.2K	1	
R6142		ERDS2TJ682	6.8K	1	
R6143		ERD25TJ103	10K	1	
R6146		ERQ12AJ2R2	Metal 1/2W 2.2	1	⚠
R6147		ERDS2TJ393	39K	1	
R6149,6150		ERDS2TJ103	10K	2	
R6151		ERG12ANJ561	Metal Oxide 1/2W 560	1	
R6152,6153		ERDS2TJ473	47K	2	
R6154		ERDS2TJ103	10K	1	
R6155		ERDS2TJ273	27K	1	
R6156		ERDS2TJ103	10K	1	
R6157		ERDS2TJ223	22K	1	
R6158		ERDS2TJ183	18K	1	
R6159		ERDS2TJ392	3.9K	1	
R6164		ERDS2TJ104	100K	1	
R6167		ERDS2TJ272	2.7K	1	
R6169,6170		ERDS2TJ473	47K	2	
R6171-6173		ERDS2TJ103	10K	3	
R6174		ERDS2TJ332	3.3K	1	
R6175,6176		ERDS2TJ103	10K	2	
R6177		ERDS2TJ473	47K	1	
R6178		ERDS2TJ680	68	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Capacitors		
C1001,1002		ECEA1VSS102	Electrolytic 35V 1000	2	
C1003,1004		ECKF1H103ZF	Ceramic 50V 0.01	2	
C1005		ECEA50Z3R3	Electrolytic 50V 3.3	1	
C1006,1007		ECEA1ESS102	Electrolytic 25V 1000	2	
C1008		ECES1EV332	Electrolytic 25V 3300	1	
C1009		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C1010		ECEA1CS221	Electrolytic 16V 220	1	
C1011		ECEA50ZR22	Electrolytic 50V 0.22	1	
C6001		ECKF1H562KB	Ceramic 50V 5600P	1	
C6002		ECEA0JS221	Electrolytic 6.3V 220	1	
C6003		ECEA25Z4R7	Electrolytic 25V 4.7	1	
C6004		ECQV05104JB	Mylar 50V 0.1	1	
C6005-6008		ECKF1H103ZF	Ceramic 50V 0.01	4	
C6009		ECEA0JS101	Electrolytic 6.3V 100	1	
C6010		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6011		ECKF1H221KB	Ceramic 50V 220P	1	
C6012		ECEA50Z1	Electrolytic 50V 1	1	
C6013		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C6014		ECEA50Z1	Electrolytic 50V 1	1	
C6015		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6016		ECKF1H221KB	Ceramic 50V 220P	1	
C6017,6018		ECEA1CS100	Electrolytic 16V 10	2	
C6019,6020		ECKF1H103ZF	Ceramic 50V 0.01	2	
C6021		EECW10D433	Gold Capacitor 10V 0.043	1	
C6022		ECQV05104JB	Mylar 50V 0.1	1	
C6023		ECEA1HS010	Electrolytic 50V 1	1	
C6024		ECQV05104JB	Mylar 50V 0.1	1	
C6025		ECEA0JS470	Electrolytic 6.3V 47	1	
C6026		ECEA1HN010S	Electrolytic 50V 1	1	
C6027		ECQM1H103KZ	Mylar 50V 0.01	1	
C6028		ECEA1HS010	Electrolytic 50V 1	1	
			Resistor Arrays		
RX6001-6005		EXBP84103K	10K	5	
RX6006		EXBP84473K	47K	1	
RX6007		EXBP86103K	10K	1	
RX6008		EXBP84273K	27K	1	
RX6009		EXBP84682K	6.8K	1	
			Connectors		
P1001		VJP1235	8P	1	
P1003		VJP1232	5P	1	
P1004		VJP1230	3P	1	
P1005		VJS1316	8P	1	
P6001,6002		VJS1214	10P	2	
P6003		VJS1316	8P	1	
P6007		VJP1239	12P	1	
P6009		VJP1232	5P	1	
P6010		VJP1239	10P	1	
P6013		VJP1230	3P	1	
P6014,6015		VJP1229	2P	2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP07147A/B	Timer Decoder P.C. Board Unit		
			Integrated Circuits		
IC7501		MN1512VTD		1	
IC7502		MN1228		1	
IC7503		MN1455BVC		1	
IC7504		AN6873N		1	
IC7505		AN5033		1	
IC7506		μPD4049UBC		1	
			Transistors		
Q7504		2SD636		1	or EQA02-07AB,MA1068-UM
Q7505,7506		2SB641		2	
Q7508,7509		2SD636		2	
Q7511		2SD637		1	
Q7512		2SB642		1	
Q7515		2SB644		1	
Q7517,7518		2SB644		2	
Q7519		2SB641		1	
			Diodes		
D7501		RD6.8EB	Zener	1	
D7502,7503		MA165		2	
D7504		LN28WP	LED	1	
D7506,7507		MA165		2	
D7509		MA165		1	
D7510		MA165		1	NV-777E,EG
D7511,7512		MA165		2	
D7515		MA165		1	
D7516		MA165		1	
D7519		10E2		1	
D7520		MA165		1	
D7522		RD30EB2	Zener	1	
D7523		LN28WP	LED	1	
D7524,7525		10E2		2	
D7526		RD12EB	Zener	1	
D7527		MA27W-B		1	
D7529		LN38GCPP	LED	1	
D7530		10E2		1	
D7535		MA165		1	
D7541,7542		MA165		2	
D7544-7549		MA165		6	
D7551		MA165		1	
D7553,7554		MA165		2	
			Resistors		
R7503		ERD10TJ471	1/8W 470	1	
R7505		ERDS2TJ102	1K	1	
R7508		ERD25TJ334	330K	1	NV-777E,EG
R7514		ERDS2TJ122	1.2K	1	
R7515		ERC14GJ126	Solid 12M	1	
R7516		ERDS2TJ102	1K	1	
R7517,7518		ERDS2TJ223	22K	2	
R7519		ERDS2TJ271	270	1	
R7520		ERDS2TJ183	18K	1	
R7521		ERDS2TJ473	47K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R7522		ERDS2TJ182	1.8K	1	
R7523		ERDS2TJ224	220K	1	
R7524		ERDS2TJ154	150K	1	
R7525		ERDS2TJ334	330K	1	
R7526		ERDS2TJ104	100K	1	
R7527		EVNK6AA00B25	Variable 200K	1	
R7531		ERDS2TJ222	2.2K	1	
R7532		ERDS2TJ223	22K	1	
R7533		ERDS2TJ332	3.3K	1	
R7534		ERDS2TJ391	390	1	
R7535		ERDS2TJ473	47K	1	
R7536		ERDS2TJ104	100K	1	
R7538,7539		ERDS2TJ473	47K	2	
R7540		ERDS2TJ104	100K	1	
R7541		ERDS2TJ124	120K	1	
R7542		ERDS2TJ103	10K	1	
R7543		ERD10TJ122	1/8W 1.2K	1	
R7544		EWEU2A016B24	Variable 20K	1	
R7545		ERDS2TJ271	270	1	
R7546		ERDS2TJ124	120K	1	
R7547		ERDS2TJ221	220	1	
R7548		ERDS2TJ102	1K	1	
R7550		ERDS2TJ104	100K	1	
R7552		ERDS2TJ104	100K	1	
R7553		ERDS2TJ273	27K	1	
R7554		ERDS2TJ562	5.6K	1	
R7555		ERDS2TJ223	22K	1	
R7557		ERD50TJ472	1/2W 4.7K	1	
R7558		ERDS2TJ561	560	1	
R7559		ERQ14AJ181	Fuse 180	1	⚠
R7560		ERD2FCJ4R7	Fuse 2W 4.7	1	⚠
R7561		ERG1ANJ392	3.9K	1	
R7562		ERDS2TJ473	47K	1	
R7563		ERDS2TJ820	82	1	
R7564		ERDS2TJ390	39	1	
R7565		ERD25TJ153	15K	1	
R7567		ERDS2TJ334	330K	1	
R7568		ERDS2TJ473	47K	1	
R7569		ERDS2TJ332	3.3K	1	
R7571		ERDS2TJ473	47K	1	
R7572		ERDS2TJ102	1K	1	
R7573;7574		ERDS2TJ471	470	2	
R7583		EVNK6AA00B14	Variable 10K	1	
R7584		ERDS2TJ104	100K	1	NV-777E,EG
R7585		ERDS2TJ332	3.3K	1	
R7586		ERDS2TJ471	470	1	
R7588		ERDS2TJ472	4.7K	1	
R7589		ERDS2TJ124	120K	1	
R7590		ERDS2TJ471	470	1	
			Capacitors		
C7502		ECCF1H080DC	Ceramic 50V 8P	1	
C7503		ECV1ZW20X32E	Trimmer 500V 20P	1	
C7504		ECCF1H330JC	Ceramic 50V 33	1	
C7505		ECCF1H220JC	Ceramic 50V 22	1	
C7506		ECKF1H103ZF	Ceramic 50V 0.01	1	
C7507		ECEA1AS101	Electrolytic 10V 100	1	
C7508		ECEA1HS010	Electrolytic 50V 1	1	
C7512		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C7513		ECEA1HSR47	Electrolytic 50V 0.47	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C7514,7515		ECCF1H101J5	Ceramic 50V 100P	2	
C7516		ECCF1H330J	Ceramic 50V 33P	1	
C7517		ECEA1CS100	Electrolytic 16V 10	1	
C7518		ECKF1H103ZF	Ceramic 50V 0.01	1	
C7519		ECQV05104JB	Mylar 50V 0.1	1	
C7520		ECQV05683JZ	Mylar 50V 0.068	1	
C7521		ECQV05823JZ	Mylar 50V 0.082	1	
C7522		ECQV05273JZ	Mylar 50V 0.027	1	
C7523-7525		ECKF1H103ZF	Ceramic 50V 0.01	3	
C7526		ECEA1CS100	Electrolytic 16V 10	1	
C7527		ECQM1H392JZ	Mylar 50V 3900P	1	
C7528		ECQV05473JZ	Mylar 50V 0.047	1	
C7529		ECEA1JS100	Electrolytic 63V 10	1	
C7530		ECEA1HS100	Electrolytic 50V 10	1	
C7531		ECEA2AS101	Electrolytic 100V 100	1	
C7532		ECEA1HS100	Electrolytic 50V 10	1	
C7533		ECEA2AS101	Electrolytic 100V 100	1	
C7534		ECEA1HS010	Electrolytic 50V 1	1	
C7535		ECKF1H103ZF	Ceramic 50V 0.01	1	
C7541		ECEA1CS100	Electrolytic 16V 10	1	
C7542		ECEA1CS470	Electrolytic 16V 47	1	
C7544		ECKF1H103ZF	Ceramic 50V 0.01	1	
			Crystals		
X7501		VSX0071-A		1	
X7502		VSX0094-A		1	
X7503		VSX0082		1	
			Switches		
SW7504		VES0213		1	
SW7505		ESD14137A		1	NV-777E,EG
SW7512		EVQQS405K		1	
SW7518,7519		EVQQS405K		2	
			Connectors		
P7501		VJP1239	12P	1	
P7502		VJP1230	3P	1	
P7503		VJP1235	6P	1	
P7504		VJP1141	2P	1	
P7505,7506		VJP1230	3P	1	
P7506		VJP1232	5P	1	
P7507		VJP1142	2P	1	
P7508		VJP1229	2P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Timer Operation P.C. Board		
			Unit		
			Transistors		
Q7501-7503		2SB642		3	
			Diodes		
D7501		RD6.8EB	Zener	1	
D7506,7507		MA165		2	
D7513-D7515		MA165		3	
D7517		MA165		1	
D7518		RD10EB	Zener	1	
D7531		LN31GCPUHL	LED	1	
D7556		MA165		1	
			Resistors		
R7501,7502		ERDS2TJ100	10	2	
R7504		ERDT2TJ273	27K	1	
R7506,7507		ERDT2TJ273	27K	2	
R7511-7513		ERDS2TJ473	47K	3	
R7566		ERDS2TJ471	470	1	
R7587		ERDT2TJ273	27K	1	
			Resistor Array		
RX7501		EXBEQ4273K	27K	1	
			Switches		
SW7501		EVQQ8R13K		1	
SW7502		EVQQJ104K		1	
SW7503		EVQQJ104J		1	
SW7506		VES0215		1	
SW7507-7511		EVQQJ104J		5	
SW7513,7514		EVQQJ104J		2	
SW7516,7517		EVQQJ104J		2	
SW7520		VES0213		1	
SW7521,7522		VSP0111		2	
			Miscellaneous		
DP7501		VSL0017	Display Tube	1	
DP7502		VSL0018	Display Tube	1	
		VGQ0225	Display Holder (Timer)	1	
		VGQ0417	Display Holder (Channel)	1	
		VMX0294	Display Spacer	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP07149A/B	TV Demodulator P.C. Board		
			Unit		
			Integrated Circuits		
IC701		BN5115		1	
IC751		AN5215		1	
			Transistors		
Q701		2SD636		1	(Q,R,S,T)
Q702		2SB641		1	(Q,R,S,T)
Q703		2SD636		1	(S,T)
Q704		2SK55P		1	(D)
Q705,706		2SD636		2	(Q,R,S,T) NV-777E,EG
Q707		2SD636		1	(Q,R,S,T) NV-777B
Q709		2SB642		1	(Q,R,S,T) NV-777B
Q7006		2SD636		1	(Q,R,S,T)
Q7007		2SD1266		1	(P,Q)
Q7008		2SD637		1	(Q,R,S,T)
Q7009		2SC1826LF3		1	(R)
Q7010		2SD636		1	(Q,R,S,T)
			Diodes		
D701,702		MA165		2	
D704,705		MA165		2	NV-777B
D7007		MA165		1	
D7008		10E1FA8		1	
D7009		RD15JB1	Zener	1	
D7010		RD13EB1	Zener	1	
			Resistors		
R701		ERDS2TJ222	2.2K	1	NV-777B
R701		ERDS2TJ332	3.3K	1	NV-777E,EG
R702		EVN50AA00B23	Variable 2K	1	
R703		ERDS2TJ122	1.2K	1	
R703		ERDS2TJ682	6.8K	1	NV-777B
R704		ERDS2TJ122	1.2K	1	
R705		EVN50AA00B23	Variable 2K	1	NV-777E,EG
R706		ERDS2TJ222	2.2K	1	NV-777E,EG
R707		ERDS2TJ393	39K	1	
R708		ERDS2TJ473	47K	1	
R711		ERDS2TJ274	270K	1	
R712		ERDS2TJ183	18K	1	
R713		ERDS2TJ392	3.9K	1	
R714		ERDS2TJ102	1K	1	
R715		ERDS2TJ391	390	1	
R716		ERDS2TJ561	560	1	
R717		ERDS2TJ102	1K	1	
R719		ERDS2TJ561	560	1	
R722		ERDS2TJ183	18K	1	
R723		ERDS2TJ562	5.6K	1	
R724		EROS2TKG8200	Metal 820	1	
R725		ERDS2TJ470	47	1	
R726		ERDS2TJ680	68	1	
R727		EROS2TKG1001	Metal 1K	1	
R728		EVN50AA00B14	Variable 10K	1	
R731		ERDS2TJ680	68	1	
R732		ERDS2TJ102	1K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R733		ERDS2TJ270	27	1	
R734		ERDS2TJ332	3.3K	1	
R735		ERD2FCG220P	22	1	⚠
R737		ERDS2TJ561	560	1	
R739		ERDS2TJ222	2.2K	1	NV-777B
R739		ERDS2TJ152	1.5K	1	NV-777E,EG
R740		ERDS2TJ103	10K	1	
R741,742		ERDS2TJ563	56K	2	NV-777E,EG
R743		ERDS2TJ473	47K	1	NV-777B
R744		ERDS2TJ223	22K	1	NV-777B
R749		ERDS2TJ562	5.6K	1	NV-777B
R752		ERD2FCG220	22	1	⚠
R754		ERDS2TJ152	1.5K	1	
R755		EVNK6AA00B24	Variable 20K	1	
R756		ERDS2TJ102	1K	1	
R757		ERDS2TJ333	33K	1	NV-777E,EG
R758		ERDS2TJ562	5.6K	1	NV-777E,EG
R759		ERDS2TJ333	33K	1	NV-777E,EG
R760		ERDS2TJ562	5.6K	1	NV-777E,EG
R761		ERDS2TJ332	3.3K	1	NV-777B
R790		ERDS2TJ750	75	1	
R7014		ERDS2TJ102	1K	1	
R7015		ERDS2TJ103	10K	1	
R7016		ERQ12HJ3R9	Metal 1/2W 3.9	1	⚠
R7017		ERDS2TJ332	3.3K	1	
R7018		ERDS2TJ271	270	1	
R7019,7020		ERDS2TJ223	22K	2	
R7021		ERD2FCJ4R7	4.7	1	⚠
R7022		ERDS2TJ102	1K	1	
			Capacitors		
C701		ECEA1CS220	Electrolytic 16V 22	1	
C702		ECEA1CS100	Electrolytic 16V 10	1	
C703		ECKF1H103ZF	Ceramic 50V 0.01	1	NV-777E,EG
C704		ECEA1CS330	Electrolytic 16V 33	1	NV-777E,EG
C705		ECEA50ZR68	Electrolytic 50V 0.68	1	
C706		ECEA1CS330	Electrolytic 16V 33	1	
C707,708		ECKF1H103ZF	Ceramic 50V 0.01	2	
C709		ECQV05224JZ	Mylar 50V 0.22	1	
C710		ECKF1H103ZF	Ceramic 50V 0.01	1	
C711,712		ECCF1H030CC	Ceramic 50V 3P	2	
C713		ECCF1H121JP	Ceramic 50V 120P	1	
C714		ECCF1H220JC	Ceramic 50V 22P	1	
C715,716		ECKF1H103ZF	Ceramic 50V 0.01	2	
C717		ECCF1H150JC	Ceramic 50V 15P	1	
C718		ECCF1H560JR	Ceramic 50V 56P	1	
C719		ECEA50Z1	Electrolytic 50V 1	1	
C720		ECKF1H103ZF	Ceramic 50V 0.01	1	
C721		ECEA1CS470	Electrolytic 16V 47	1	
C723		ECEA1EN4R7S	Electrolytic 25V 4.7	1	
C724		ECCF1H150JC	Ceramic 50V 15P	1	
C726		ECCF1H680JC	Ceramic 50V 68P	1	
C727		ECCF1H100DC	Ceramic 50V 10P	1	NV-777E,EG
C727		ECCF1H080DC	Ceramic 50V 8P	1	NV-777B
C728		ECCF1H100DC	Ceramic 50V 10P	1	
C731		ECQM1H103KZ	Mylar 50V 0.01	1	
C732		ECKF1H103ZF	Ceramic 50V 0.01	1	
C733		ECCF1H151JC	Ceramic 50V 150P	1	
C734,735		ECKF1H103ZF	Ceramic 50V 0.01	2	
C736		ECEA1HS010	Electrolytic 50V 1	1	
C737		ECEA1CS220	Electrolytic 16V 22	1	
C739		ECKF1H103ZF	Ceramic 50V 0.01	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C740		ECQV05104JB	Mylar 50V 0.1	1	
C743		ECQM1H103KZ	Mylar 50V 0.01	1	
C745		ECKF1H103ZF	Ceramic 50V 0.01	1	NV-777B
C746		ECEA1CS220	Electrolytic 16V 22	1	
C747		ECKF1H103ZF	Ceramic 50V 0.01	1	NV-777B
C751		ECCF1H050CC	Ceramic 50V 5P	1	
C753		ECQM1H473KV	Mylar 50V 0.047	1	
C754		ECEA1CS101	Electrolytic 16V 100	1	
C755		ECCF1H390JP	Ceramic 50V 39P	1	
C756		ECCF1H120JC	Ceramic 50V 12P	1	
C757		ECKF1H561KB	Ceramic 50V 560P	1	
C758		ECCF1H820JP	Ceramic 50V 82P	1	
C759		ECEA1CS100	Electrolytic 16V 10	1	
C760		ECEA1HN010S	Electrolytic 50V 1	1	
C761		ECQM1H393KS	Mylar 50V 0.039	1	
C7006,7007		ECEA1ES101	Electrolytic 25V 100	2	
C7008		ECEA1CS220	Electrolytic 16V 22	1	
C7009		ECEA1CS330	Electrolytic 16V 33	1	
			Coils		
L701		VLQEL06F220K	22μH	1	
L703		VLQEL06F150K	15μH	1	
L704		VLQEL06F470K	47μH	1	
L705		VLQEL06F560K	56μH	1	
L706		VLQEL06F820K	82μH	1	
L707		ELQSF68KB	0.68μH	1	
L7001		VLQEL06F221K	220μH	1	NV-777B
			Combination Circuits		
RX701		EXPR220K272S	22P 2.7K	1	
RX702		EXRP102K471S	1000P 470	1	
			Transformers		
T700		EIV7E019A		1	NV-777B
T700		EIV7E016H		1	NV-777E,EG
T701		EULHLB352		1	NV-777B
T701		EULHLB307		1	NV-777E,EG
T702		EIM7A511		1	
T703		EIV7EQ16F		1	
T704		EIV7E016E		1	
T751		EIS7E006A		1	
T752		EIS7E006B		1	
			Crystals		
X702		EFCS6R0MS4		1	NV-777B
X702		EFCS5R5MS4		1	NV-777E,EG
X703		EFCS6R0MW3		1	NV-777B
X703		EFCS5R5MW3		1	NV-777E,EG
			Connectors		
P701		VJP1233	6P	1	
P702,703		VJP1230	3P	2	
P704		VJP1239	12P	1	
P705		VJP1141	2P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			RF Converter Unit		
		ENC17551			NV-777E,EG
		ENC17552			NV-777B
		ENC17551	RF Converter Unit		NV-777E,EG
			Integrated Circuit		
IC1		AN6395		1	
UO-1			UHF Oscillator	1	
			Transistors		
Q1,2		2SD636		2	
Q3,4		2SC1215		2	(R)
			Diodes		
D1		1S953		1	
D2,3		1SS86		2	
D4		MA1075	Zener	1	
		or RD7.5E			
			Resistors		
R1		ERD10TJ333	33K	1	
R2		ERJ8GCJ103	Chip 10K	1	
R3		ERJ8GCJ331	Chip 330	1	
R4		ERJ8GCJ474	Chip 470K	1	
R5		ERJ8GCJ392	Chip 3.9K	1	
R6		ERD10TJ182	1.8K	1	
R7		ERJ8GCJ122	Chip 1.2K	1	
R8		ERJ8GCJ821	Chip 820	1	
R9		ERJ8GCJ562	Chip 5.6K	1	
R10		ERJ8GCJ151	Chip 150	1	
R11		ERD10TJ472	4.7K	1	
R12,13		ERJ8GCJ101	Chip 100	2	
R15		ERF8GCJ270	Chip 27	1	
R16		ERD25TJ751	1/4W 750	1	
R17		ERJ8GCJ121	Chip 120	1	
R18		ERD10TJ393	39K	1	
R19		ERD25FJ560	1/4W 560	1	
R20,21		ERD10TJ822	8.2K	2	(UO-1)
R22		ERD10TJ391	390	1	(UO-1)
VR1		EVX138CA00B13	Variable 1K	1	
VR2		EVX138CA00B14	Variable 10K	1	
			Capacitors		
C1		ECEA1AK330	Electrolytic 10V 33	1	
C2		ECEA1HK3R3	Electrolytic 50V 3.3	1	
C3		CP2101J	Chip 100P	1	
C4		CP2040CC	Chip 4P	1	
C5		CP2222MD	Chip 2200P	1	
C6		CP2150CC	Chip 15P	1	
C7		ECCD1H820K	Ceramic 82P	1	
C8		CP2050CC	Chip 5P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C9		CT1152ZX	Semiconductor 1500P	1	
C10		ECEA1EK4R7	Electrolytic 25V 4.7	1	
C11		CP2103MD	Chip 0.01	1	
C12		CP2150J	Chip 15P	1	
C13		CP2680J	Chip 68P	1	
C14		CP2151J	Chip 150P	1	
C15		CP2470J	Chip 47P	1	
C16		CP2270J	Chip 27P	1	
C17		ECV1ZW25X53N	Trimmer 25P	1	
C18,19		CP2221J	Chip 220P	2	
C20		CY2102PE	1000P	1	(UO-1)
C21		CX2331KB	330P	1	(UO-1)
C22		CX2140K	14P	1	(UO-1)
C23		CX2040C	4P	1	(UO-1)
C24			Variable 7P	1	(UO-1)(Not Available)
C25		CP2070J	Chip 7P	1	
C26		CP2103MD	Chip 0.01	1	
C27		ECEA1CK470	Electrolytic 16V 47	1	
C28		CP2103MD	Chip 0.01	1	
C29		CP2102MD	Chip 1000P	1	
C30		ECCD1H010CC	Ceramic 50V 1P	1	(UO-1)
C31		CP2102MD	Chip 1000P	1	
C32		ECCD1H040CC	Ceramic 50V 4P	1	
C33		CU2DR2QA-S	0.2P	1	(UO-1)
			Coils		
L1		LP403804		1	
L2		FL3H8R2K	Peaking 8.2μH	1	
L3		LB1626092A02	Choke	1	
L4		LN07W350VL01		1	(UO-1)
L5		LN08W200L6		1	(UO-1)
L6		LB162609VU03	Choke	1	(UO-1)
			Transformer		
T1		VLT0327	SIF Oscillator	1	
T2		BRNA010V		1	
			Miscellaneous		
P1		VJP1143	Connector 5P	1	
PJ		PNJA002E	Pin Jack	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		ENC17552	RF Converter Unit		NV-777B
			Integrated Circuits		
IC1		AN6395		1	
UO-1			UHF Oscillator	1	
			Transistors		
Q1,2		2SD636		2	
Q3,4		2SC1215		2	(R)
			Diodes		
D1		1S953		1	
D2,3		1SS86		2	
D4		RD7.5E	Zener	1	or MA1075
			Resistors		
R1		ERD10TJ333	33K	1	
R2		ERJ8GCJ103	Chip 10K	1	
R3		ERJ8GCJ331	Chip 330	1	
R4		ERJ8GCJ474	Chip 470K	1	
R5		ERJ8GCJ392	Chip 3.9K	1	
R6		ERD10TJ182	1.8K	1	
R7		ERJ8GCJ122	Chip 1.2K	1	
R8		ERJ8GCJ821	Chip 820	1	
R9		ERJ8GCJ562	Chip 5.6K	1	
R10		ERJ8GCJ151	Chip 150	1	
R11		ERD10TJ562	5.6K	1	
R12,13		ERJ8GCJ101	Chip 100	2	
R15		ERJ8GCJ270	Chip 27	1	
R16		ERD10TJ751	750	1	
R17		ERJ8GCJ121	Chip 120	1	
R18		ERD10TJ393	39K	1	
R19		ERD25FJ560	1/4W 560	1	
R20,21		ERD10TJ822	8.2K	2	(UO-1)
R22		ERD10TJ391	390	1	(UO-1)
VR1		EVX138CA00B13	Variable 1K	1	
VR2		EVX138CA00B14	Variable 10K	1	
			Capacitors		
C1		ECEA1AK330	Electrolytic 10V 33	1	
C2		ECEA1HK3R3	Electrolytic 50V 3.3	1	
C3		ECCD1H101	Ceramic 50V 100P	1	
C4		CP2040CC	Chip 4P	1	
C5		CP2222MD	Chip 2200P	1	
C6		CP2150CC	Chip 15P	1	
C7		ECCD1H820K	Ceramic 50V 82P	1	
C8		CP2050CC	Chip 5P	1	
C9		CT1152ZX	Semiconductor 1500P	1	
C10		ECEA1EK4R7	Electrolytic 25V 4.7	1	
C11		CP2103MD	Chip 0.01	1	
C12		CP2150J	Chip 15P	1	
C13		CP2680J	Chip 68P	1	
C14		CP2151J	Chip 150P	1	
C15		CP2390J	Chip 39P	1	
C16		CP2270J	Chip 27P	1	
C17		ECV1ZW25X53N	Trimmer 25P	1	
C18,19		CP2181J	Chip 180P	2	
C20		CY2102PE	1000P	1	(UO-1)
C21		CX2331KB	330P	1	(UO-1)
C22		CX2140K	14P	1	(UO-1)
C23		CX2040C	4P	1	(UO-1)
C24			Variable 7P	1	(UO-1)
					(Not Available)
C25		CP2070J	Chip 7P	1	
C26		CP2103MD	Chip 0.01	1	
C27		ECEA1CK470	Electrolytic 16V 47	1	
C28		CP2103MD	Chip 0.01	1	
C29		CP2102MD	Chip 1000P	1	
C30		ECCD1H010CC	Ceramic 50V 1P	1	(UO-1)
C31		CP2102MD	Chip 1000P	1	
C32		ECCD1H040CC	Ceramic 50V 4P	1	
C33		CU2DR2QA-S	0.2P	1	(UO-1)
			Coils		
L1		LP403804		1	
L2		FL3H8R2K	Peaking 8.2μH	1	
L3		LB1626092A02	Choke	1	
L4		LN07W350VL01		1	(UO-1)
L5		LN08W200L6		1	(UO-1)
L6		LB162609VU03	Choke	1	(UO-1)
			Transformers		
T1		VLT0327	SIF Oscillator	1	
T2		BRNA010V		1	
			Miscellaneous		
P1		VJP1143	Connector 5P	1	
PJ		PNJA002E	Pin Jack	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Take-Up Photo Sensor		
			P.C. Board		
			Transistors		
Q1504		PN150NV		1	
			Capacitor		
		ECKF1H102KB	Ceramic 50V 1000P	1	
			Sensor LED P.C. Board		
			Diodes		
D1501,1502		LN58	LED	2	
		VMD0145	Holder	1	
			Supply Photo Sensor		
			P.C. Board		
			Transistor		
Q1508		PN150NV		1	
			Capacitor		
		ECKF1H102KB	Ceramic 50V 1000P	1	
			Power IC Heat Sink		
			P.C. Board		
			Integrated Circuits		
IC1501		STR1195		1	⚠
IC1502		AN7806V		1	⚠
			Reel Motor Heat Sink		
			P.C. Board		
			Transistors		
Q1502		2SD1265		1	
Q1503		2SD1273		1	
			Connector		
P1503		VJP 1230	3P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Front Loading Motor		
			Connection P.C. Board		
			Switch	2	
P1505			Connector	1	
			Motor Connection		
			P.C. Board		
P1505		VJP1248	8P	1	
			Reel Sensor P.C. Board		
Q1505-1507		DN6838A	Hall IC	3	
		VEP2050	Remote Control Transmitter		NV-A17E
			Integrated Circuit		
IC1		MN6028R			
			Transistors		
Q1		2SD636		1	(Q,R) or 2SD637(Q,R)
Q2		2SD638		1	(R,S) or 2SD639(R,S)
Q3		2SD636		1	(Q,R) or 2SD637(Q,R)
			Diodes		
D1		LN230RA	LED	1	
D2,3		SE303A	IR LED	2	or LN66(R,S)
D4-7		MI65		4	
			Resistors		
R1		ERD25TJ333	33K	1	
R2		ERD25TJ101	100	1	
R3		ERD25TJ1R0	1	1	
R4		ERD25TJ470	47	1	
R5		ERD25TJ332	3.3K	1	
R6		ERD25TJ223	22K	1	
			Capacitors		
C1		ECEA0JS101	Electrolytic 6.3V 100	1	
C2,3		ECKF1H101KB	Ceramic 50V 0.01	2	